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EUROPEAN FREE TRADE: THE CHOICE FOR BRITAIN[1]

By J. R. SARGENT

ECONOMISTS have not so far been a great deal of use to the British public in helping it to make up its mind whether to favour the move towards free trade in Western Europe. The economists know *how* to answer the question whether we should welcome it, but not what the answer is. For the latter depends upon a formidable requirement of knowledge about the reactions of the economies of Western Europe to a lowering of tariffs and other barriers to their trade with each other; reactions of demand for home-produced goods and imports to changes in their prices, of costs and prices to changes in output that will follow and to changes in real income that may be associated with them, of balances of payments to all these changes, and of costs and prices again to measures that may have to be taken to rectify balances of payments. Among the welter of conflicting effects I shall select three which lead me to believe that the project for a European Free Trade Area offers large long-term gains, and ought, if these were the only relevant considerations, to be supported. There is, however, another effect which it may have which could be disastrous for the future of the British economy, an effect which concerns the balance of payments. Consequently there may be a choice before us. This is not the choice between trade with Europe and trade with the Commonwealth, the significance of which has been both overdone and overdiscounted. The choice that we may have to make lies between the code of conduct accepted in the sterling club and what will be sanctified in the order of European Free Trade. But let us elaborate this unfavourable effect later.

The first of the favourable effects of European Free Trade arises from the fact that the project will certainly involve an increase in trade in manufactured products. The participating countries will turn from their existing sources of supply to those which the removal of tariffs reveals to be cheaper. The cheaper suppliers of each good will expand their output, the costlier will contract. Now if it were the case that a small expansion in the output of the cheaper producers led to a large increase in their costs of production, if —in other words—they were subject to rapidly diminishing returns, then the possibilities of gain through greater trade would soon be exhausted. For after only a small change in the international structure of production, the erstwhile cheaper producers would find themselves with costs as high

[1] This is a slightly modified version of a paper read to the Liverpool Economic and Statistical Society in February 1958. In revising it I have benefited from the comments of P. P. Streeten, G. D. N. Worswick, and Sir Donald MacDougall.

as those of their formerly costlier competitors. But in manufacturing production, it is not likely to be the case that diminishing returns will set in at all rapidly; indeed, there may even be increasing returns. Consequently, the gains to be had by concentrating production upon the comparatively most efficient producers are likely to continue for some time before they are cut short by rising costs. For this reason, the relative elasticity of supply of manufactures, the increase in total production may well be more significant in a group of countries when trade between them in manufactures is freed than it would be if they freed their trade in agricultural products. It is probably true that the differences in the costs at which agricultural commodities are produced in the various Western European countries are more marked than the differences in the costs at which manufactures are produced; and the size of such cost differences is one of the factors on which the gains from international trade depend. But if agricultural protection were removed and a gainful expansion of trade in agricultural products took place, it would not get very far before the cheapness of the cheaper producers of each product disappeared in the face of diminishing returns, thus limiting the gain. We should not expect this limit to be reached at all rapidly in manufacturing; and since European Free Trade will be mainly in manufactures, concentration upon the most efficient producers of each type of good will go far enough to yield considerable gains to total production in the participating countries.

It would be inadequate, of course, to measure the gains solely in terms of production. A full assessment would require us to calculate the value of the additional output to consumers, measured by the amount that they would be prepared to pay rather than be deprived of it. It is possible that a small increase in the output of something which consumers would pay a good deal not to be without would be preferred to a large increase in the output of something less highly valued. As a colleague put it to me, 'Would you not rather have a few more bottles of good claret than a large replacement of British shirts by German shirts?' I must therefore admit to assuming that a large increase in production will mean a large increase in satisfaction. Shirts are as good as Chateau Latour.

My second reason for supporting European Free Trade is a less positive one than my first, and it is that it is not likely to be found guilty of the particular economic sin to which Customs Unions are prone. The sin that I refer to is that of diverting trade away from producers outside the Union who happen to be more efficient than any inside. Suppose that the world's most efficient producer of a certain commodity is country *A*. Suppose that *B* and *C* are proposing to form a Customs Union, from which *A* is excluded; and that before the Union takes place, *B*'s tariff is large enough to protect *B*'s home production of the commodity from the competition of *A*, while

C's tariff is not, so that *C*—assuming that her tariff does not discriminate against *A*—obtains her supplies of the commodity from *A*, the cheapest source. Thus both *A* and *B* are producers of the commodity, and *C* is not. When the Union takes place, there is a danger that *C* will be caused by the removal of her tariff on imports from *B* to shift her source of supply from *A* to *B*, although *A* is the most efficient producer. In other words, the effect of the Union will be to stimulate production where it is least efficient. The situation is different, however, if before the Union takes place both of its members, *B* and *C*, are producing the commodity. For then the impact of the Union will fall upon whichever of *B* and *C* is the least efficient producer. The result is not ideal; the prize is not awarded to the best, but at least a penalty is administered to the worst. And this contrasts favourably with the former case of a Union between a producer and a non-producer, which actually gives a prize to the worst. From this argument we can draw the conclusion that, judged on its contribution to greater economic efficiency on a world-wide and not merely a regional scale, a Customs Union will be better when it is entered into by countries that are similar in the range of commodities that they produce than when it is concluded between countries whose production is concentrated upon very different things. Now this is a test through which the countries of Western Europe come tolerably well, at any rate as regards manufactures; for many manufactured goods can be found in production in most of them. Certainly, on these grounds, Western Europe is better material for a Customs Union than the British Commonwealth, which consists of economies so diverse that an arrangement like Imperial Preference must seriously divert demand away from more efficient producers outside the system to less efficient producers inside it. This, of course, was its object; and one which had its justification in the early thirties, when deepening depression made *sauve qui peut* the order of the day. But unless such conditions return, the economic usefulness of Imperial Preference has evaporated; and if economic arguments could be heard above the political din that breaks out around any discussion of the subject, they would surely be telling us that the creation of trade among the countries of Western Europe, caused by their very similarity, will produce gains that markedly contrast with the losses through trade diversion that are involved in Imperial Preference.

It is true, however, that this particular virtue of the proposals for European Free Trade is threatened by a new figure that has recently appeared on the scene, in the shape of the Overseas Territories. Eventually the products of the Overseas Territories of the members of the Common Market will enter the Market free of duty; and this is bound to divert towards the Overseas Territories demands which, since they could not be met by the members themselves at home, may have formerly been supplied

from elsewhere at lower cost. This is likely to create a particularly serious problem for Ghana, whose sales of cocoa compete with those of French African colonies brought into the Common Market. Something will have to be done to counteract these threatened diversions. Perhaps we could ourselves obtain for Ghana under the Free Trade Area treatment similar to that conceded to the Overseas Territories under the Common Market, by agreeing to abandon the preference accorded to them in our own home market. If action can be taken to avoid serious diversions of trade which may result from bringing into plans for European Free Trade economies that differ radically in their structure from those of the Western European countries, we can expect that the relative homogeneity of this latter group will mark it out as one within which a removal of tariffs can lead to the creation of gainful trade.

Gainful trade, however, cannot be anticipated simply by proving homogeneity. A number of conditions must also hold.[1] For example, the countries proposing to remove their tariffs on each others' products must be potentially dissimilar as well as actually similar. That is to say, it must be shown that significant reductions in costs are obtainable if the industries in which each country has the comparative advantage are enabled by competition to expand at the expense of those same industries in the others, so that the degree of specialization is increased and the economic similarity of the countries diminished. The scale and extent of tariffs in Western Europe suggests that this is so. On the other hand, their growth may well have been caused by the desire of European producers to protect themselves, not so much from other European producers, as from producers outside Europe, perhaps in the United States. In other words, the extent of Western European tariffs may be evidence of cost differences between Western Europe as a whole and countries outside Europe rather than of cost differences among the Western European countries themselves.

A further condition for minimizing the diversion of trade is that the countries which are removing their tariffs on each others' products should at the outset be each others' principal suppliers of the goods on which they remove the tariffs. For if the extent to which these goods are supplied from outside the area is small, the scope for trade diversion is also small. As far as manufactures are concerned, this is the case for the countries that are the prospective members of a Free Trade Area. Of the total import of manufactures into these countries in 1955, 70 per cent. came from other prospective members of the Free Trade Area, the percentages being for chemicals 67 per cent., for machinery and transport equipment 78 per cent., and for other manufactures 66 per cent.

[1] These have been worked out by Professor Meade in 'The Theory of Customs Unions' and in 'Trade and Welfare'.

Moreover, there is a further reason for thinking that the risk of trade diversion will be kept down if the project for a Free Trade Area goes through. For the extent to which trade may be diverted from suppliers outside Europe in favour of less efficient European producers depends partly upon the size of the common external tariff of the Common Market countries. And the existence of a Free Trade Area whose members choose their own external tariff may help to keep down the tariff surrounding the Common Market. In principle it is possible to prevent goods from outside Western Europe from dodging the Common Market tariff by entering the Common Market via a low-tariff member of the Free Trade Area. For this purpose a system of certificates of origin or of countervailing duties can be developed. Let us hope that in practice this will prove difficult enough to make the countries of the Common Market chary of keeping their common external tariff too high. But of course not a word of this to the French.

My third reason for supporting the movement towards European Free Trade is also a somewhat negative one. It is that there are no strong reasons to expect it to cause a deterioration of our terms of trade. Although I call this negative, it is important as a factor in our total assessment of the project. For after it has been shown that it offers considerable gains to total production in the participating countries taken together, any individual country might legitimately decide against participating if it had reason to think that its terms of trade would be worsened thereby to such an extent that little or none of the total gain would accrue to itself. I base my estimate of a neutral effect on our terms of trade on three factors. First, our tariff is not noticeably high nor noticeably low by Western European standards, although if we include the Scandinavian countries as possible participants in European free trade it is on the high side. Consequently, the opportunities for expansion of our exports to other participants when tariffs have been removed will be roughly equalled by the opportunities opened to them to export more to us. Secondly, there is no particular reason to think that our consumers will respond with any greater alacrity to the chance to buy cheapened European goods than that with which European consumers will respond to the opportunity to buy more British goods. Put in different terms, there is no reason to think that our elasticity of demand for imports is any greater than that of the other prospective participants. Thirdly, there is the supply factor. Suppose that after a mutual abolition of their tariffs, two countries expand their imports from each other by identical amounts. If one is a primary producing country which can only expand output at rapidly increasing cost, and the other a manufacturing country able to provide the increased demand from abroad at constant cost, then the terms of trade will move against the latter; its

export prices remain the same, while its import prices rise sharply. This is presumably what would happen to us if we were to seek an expansion of Commonwealth trade by strengthening Imperial Preference. But if as a manufacturing country we expand our trade in manufactures with other manufacturing countries in Western Europe, we shall be spared any such deterioration of the terms of trade, although of course we shall not expect any improvement. This is another effect of the similarity of the economies likely to participate in European Free Trade; in this case a similarity in their elasticities of supply.

These are my three reasons for supporting the movement towards free trade in Western Europe, and in particular the project of a European Free Trade Area; that the gains will not quickly reach their limit as trade expands and may therefore be considerable, that the risks of trade diversion are small, and that our terms of trade will be immune from serious harm. There is also, of course, the argument that we cannot afford to be excluded, that we cannot allow a fence to be erected against us from behind which we should impotently have to watch while the lush pastures of Western Europe were cropped with relish by the Germans. This is perhaps the most powerful argument of all for our participation; but I have not stressed it because I believe that we should go into a Free Trade Area not merely for fear of a worse fate, but in the positive expectation of gain. Now, however, I should like to go over from defence to the attack. For I believe that there is one aspect of the matter which has been so gravely ignored that if nothing is done about it before we enter a Free Trade Area we shall find ourselves involved in the risk of losses which might well outweigh the gains that on other grounds we can expect. What concerns me here is the Achilles heel of the British economy, the balance of payments. But first let me make a distinction. The lowering of tariffs in Western Europe will lead to a change in the international structure of production, some countries producing more of one good, others more of another. This is bound to have its impact on balances of payments; and when the transitional period is over it will be found that some countries have deficits and others have surpluses resulting from the structural change. This will necessitate a re-alignment of exchange rates. Now it is not the development of these structural balance of payments problems that I fear. The ease with which a deficit can be cured by a moderate lowering of the exchange rate will increase as barriers to trade are lowered and the degree of competition between the economies of Western Europe is enlarged; for under these conditions a deficit country that lowers its exchange rate and so the prices of its exports can expect an elastic response from foreign buyers. This condition for the easy adjustment of balances of payments by changes in the exchange rate will hold even more strongly if the necessary changes

can be made in a concerted manner designed to give them the stamp of permanence. If rates change higgledy-piggledy or in a fluctuating manner, the uncertainty may inhibit buyers from departing from their established sources of supply to take advantage of the lower prices of the devaluing countries, and the devaluations will be that much the less effective. To ensure their effectiveness, I should envisage a general re-alignment of currencies after four or five years of the transitional period have elapsed, concerted among the participants and accompanied by a joint announcement that their Central Banks would co-operate to maintain the new parities. If the structural problem of balances of payments is tackled thus in an orderly manner, it should yield easily to a re-adjustment of exchange rates. Of course, there may be trouble in persuading some people that down is not the only direction in which exchange rates can move; but, as we often hear, miracles can happen in Wirtschaftswunderland.

That which will arise from the transition to free trade is not the only balance of payments problem that might be called 'structural'. Other structural pressures may be felt by the balance of payments because one country experiences a rate of growth of productivity or a rate of increase of money wages which differs from that of others. These pressures are undoubtedly the most difficult to manage, but if they exist, they exist whether we have free trade or not. What I particularly fear about the project of a Free Trade Area as such, and as it now stands, is that it will open our internal economy even wider than it now is to the impact of temporary fluctuations in our balance of payments. No country is immune from such temporary fluctuations; but those that have large gold reserves are able to absorb them by allowing the reserves to rise and fall. Those, on the other hand, like the United Kingdom, whose reserves are small and can only sustain a modest decline, must meet a temporary deficit by reducing the internal level of expenditure. It used to be thought that this reduction could be minimized by the use of bank rate which would supplement the reserves by attracting short-term capital funds from abroad, and could be kept at a high level, at any rate for a while, without much influencing the long-term rate of interest and so the level of internal spending. But the crisis of September 1957 showed that the Bank of England no longer has confidence in the attractive power of bank rate by itself; a rise will only be effective if it is accompanied by direct action to reduce the internal level of demand. Thus we arrive back at the proposition that low reserves inevitably make the internal level of expenditure vulnerable to temporary deficits (on current and capital account) which can be ignored by countries whose reserves are high.

Now even if there were no reason to believe that entry into a Free Trade Area will actually increase the vulnerability of our economy to temporary

fluctuations in our balance of payments, the present degree of it is inimical to the success of the venture. For if the internal level of demand is always having to be tampered with, it is likely to create an atmosphere of uncertainty which will cloud over the changes in the structure of production implied in the change to Free Trade, and make businessmen unduly slow and cautious in feeling their way towards them. If they were endowed with perfect foresight, businessmen in an industry due for expansion as a result of the transition to Free Trade could distinguish this long-term trend among the short-term fluctuations in demand which range around it. Foresight is never perfect; but the greater and the more frequent the short-term fluctuations, the less confident will businessmen be in identifying the trend and the slower they will be in accommodating themselves to it. Apart from this, they will probably be prevented from accommodating themselves to it by the measures taken to curtail the internal level of demand in the face of a temporary balance of payments deficit. For the impact of such measures will always be mainly upon investment. There is no necessary reason why this should be so; it is open to the government to meet the deficit by cutting its own expenditure or by restraining consumption. But I am ready to wager the gold and dollar reserves to a brass button that in the event it will be investment that bears the brunt of the cuts. Nor will the results be any better if temporary fluctuations which the reserves are inadequate to absorb are met by allowing the exchange rate to vary. The same uncertainty will be created; and the effectiveness of a devaluation may well depend upon its being accompanied by measures to curtail demand, which will mean measures to curtail investment. In any case, many people agree that temporary variations of the exchange rate are doubtful in their effect on the balance of payments.

For these reasons, the success of Free Trade in altering the structure of production along the lines indicated by comparative costs depends on reducing the present extent of our vulnerability to temporary deficits in our balance of payments. But there are also reasons for thinking that if we enter a European Free Trade Area, our vulnerability will actually be increased. In the first place we shall increase the proportion of our trade that takes place with an area of the world which is particularly addicted to gold settlements. Now it is entirely reasonable that a country that incurs a long-term deficit should have to settle it in gold, unless it can truly be ascribed to restrictions on its exports by its creditors. What I am complaining about is that there has been a steady trend within Western Europe towards the settlement of *all* deficits in gold, whether long-term or short-term, and towards whittling away the margins within which balances of payments can fluctuate without a transfer of gold taking place. The European Payments Union, which in its first few years provided for

reasonably generous swings of credit, has been gradually hardened, until at present three-quarters of any monthly deficit must be met in gold. When it is superseded by the European Monetary Agreement, the whole of each monthly settlement will be made in gold, and there will be no credit automatically available. It is true that we have ourselves made matters worse by our return to *de facto* convertibility in February 1955. But since that time it is towards Western Europe that the flow of gold has been particularly marked. All this means that if, as a result of entering the Free Trade Area, a greater proportion of our trade than before is to be with a gold-minded Europe, then an increased likelihood of losing gold will attach to a temporary deficit of any given size in our balance of payments. Since the amount of gold that we can afford to let go at any one time is limited by the exiguousness of our reserves, this means that we will be compelled to take action against the internal level of demand more swiftly than before.

This is the first way in which our vulnerability will be increased if we enter the Free Trade Area. The second concerns the possibility of using the Sterling Area as a discriminatory club. In days gone by a means of defence for the gold reserves existed in the willingness of the countries of the Sterling Area to come to an agreed restraint upon expenditure likely to involve losses of gold. I myself believe that we may have to resort once more to this means of defence, and that, in face of the alternatives, we shall find the other members of the Sterling Area ready to co-operate with us in its use. I shall not now dwell on the reasons for this belief, but only on its implications.[1] If we were to return to a system of collective defence by the Sterling Area countries of the gold and dollar reserves, this would involve two steps. First, it would be necessary to suspend *de facto* convertibility for non-residents of the Sterling Area, operated through official support of sterling in foreign markets; for members of the Sterling Area cannot be expected to refrain from converting their sterling into gold or dollars if non-members are free to do so. Secondly, it would be necessary for members of the Sterling Area to impose restrictions on expenditure outside the Area that would be likely to result in a loss to the reserves. Now this second requirement will probably prove to be incompatible with our obligations as members of a Free Trade Area. Theoretically it need not. Theoretically, when the Sterling Area countries came to the collective defence of the gold reserves with restrictions on their expenditure outside the Area, these restrictions, at any rate as far as Britain's share of them was concerned, could be held off imports from the European Free Trade Area. To restrict imports from outside the Sterling Area without going back on our

[1] These reasons I elaborated in a broadcast on 28 Dec. 1957, which was reprinted in *The Listener*, 2 Jan. 1958.

European free trade obligations and restricting imports from other members of the Free Trade Area—would this be a practicable policy?

I do not think that it would. In the first place, if we exclude the other members of the Sterling Area and the other members of the Free Trade Area from the operation of our import restrictions, it leaves a severely truncated area against which they can be effective, an area which accounted for only 34 per cent. of British imports in 1955. In the second place, there would be the danger that dollar goods, for example, whose import into the United Kingdom had been restricted as part of the Sterling Area's policy for the defence of the reserves, would still find their way in via some other member of the Free Trade Area. This could only be prevented if a foolproof system of certificates of origin could be developed. Even if it could, there would still be a difficulty arising from the possibility of finding substitutes for dollar goods within the Free Trade Area. If the import of American cars into the United Kingdom were restricted as part of Sterling Area policy, the British demand for French, German, or Italian cars would rise; and the resulting deficit with Western Europe would cost us heavily in gold, perhaps so heavily that the purpose of the original policy would be defeated. Indeed, if restrictions on expenditure outside the Sterling Area are to be used as a means of defending its reserves against the impact of temporary deficits in its balance of payments, then such restrictions are robbed of half their effectiveness if they must not be applied to an area where settlements involve so high a gold content as they do in Western Europe. In other words, the successful use of the Sterling Area as a discriminatory club can hardly fail to imply discrimination against the countries of the Free Trade Area. If the latter is ruled out, then so is the former.

It seems then that Britain has a choice between the Sterling Area and the Free Trade Area. As things are at present, the choice has already been made, and made against the Sterling Area. For the present policy is to defend sterling by means of a deflationary policy in Britain itself, rather by means of restrictions on their expenditure agreed by the Sterling Area countries in the manner of earlier days. But should the present policy prove intolerable for Britain, and its repercussions on the Sterling Area countries prove intolerable for them, the idea that the Sterling Area should again operate as a discriminatory club will come back into vogue, and for Britain the choice between Sterling Area and Free Trade Area will be open again. To my mind, it is this choice that is the real issue, and not the choice between trade with Europe and Imperial Preference. The importance of the latter choice lies in its political content, although even this is exaggerated. Economically there is no doubt, as I hope that the first part of my paper has shown, that we have far more to gain from free trade with Europe than from maintaining Imperial Preference unimpaired.

The choice between Free Trade Area and Sterling Area arises from the fact that the Sterling Area offers us the possibility of defending an inadequate gold reserve, and thus of insulating our internal expenditure, from the impact of temporary fluctuations in the balance of payments. If we enter the Free Trade Area we virtually abandon this means of insulation in exchange for no satisfactory alternative. If an alternative could be found within the context of the Free Trade Area, then I should be willing to abandon the possibility of a return to the old order of the Sterling Area as a discriminatory club. Such an alternative would have to yield us an effective strengthening of our gold reserve by considerably reducing the extent to which temporary fluctuations in our balance of payments with Western Europe involve settlement in gold by considerably increasing the margins within which such fluctuations can take place without the need for gold to be transferred. I do not think that the prospects for any such arrangement are good. It is noticeable that the Treaty establishing the European Economic Community—the Common Market—in the chapter which deals with balances of payments makes no regular provision for margins of credit. It is odd that there should be nothing of this sort to take its place alongside the European Social Fund and the Investment Bank. Nevertheless, our first move should be to prove the possibilities; to see whether we can get established within the Free Trade Area some organization which will provide automatic short-term credit, and thus lighten the burden on our gold reserves of temporary balance of payments fluctuations. Practically, this will mean an approach to the Germans. If it is necessary to induce them to grant substantial credit swings within the organization proposed, or even better to make available to it a slice of their gold holdings, I should be prepared to see the United Kingdom forgo some of the margins of Imperial Preference which she at present enjoys over German goods in Commonwealth countries.

This, then, is the immediate task: to see whether within the Free Trade Area we can find some means of increasing the adequacy of our gold reserves which would be sufficient for us to abandon the means of defending them which lies to hand in the Sterling Area. If no such means can be found, then what? To retain the Sterling Area is to retain the possibility of imposing restrictions on trade with Western Europe, and this cannot be reconciled with the obligations of a member of the Free Trade Area. In this sense there is a choice for us between Free Trade Area and Sterling Area. If we choose the Free Trade Area, we shall have the long-term gains which I began by describing, but our economy will be made more vulnerable to short-term fluctuations in the balance of payments, and this will have its long-term cost in a lower average level of investment and a correspondingly lower rate of growth of productivity. If we choose the Sterling Area, we

shall lose the long-term gains, but be more immune from the cost. If the choice cannot be resolved by increasing the adequacy of our reserves within the context of the Free Trade Area, if the choice has to be made, then in my view it should be made in favour of the Sterling Area, provided that the possibilities of the Sterling Area for the defence of the gold reserves without disturbance to the internal economy are then fully exploited. My reason for choosing the Sterling Area is this. The gains that the Free Trade Area will bring will be once-for-all; the expansion of the efficient and the contraction of the inefficient will raise the United Kingdom to a higher *level* of productivity. But the loss that it will also bring in terms of a lower average level of investment will reduce the *rate of growth* of productivity, and after some time has elapsed this loss will swallow up the gains. It is possible that the elixir of Free Trade will release dynamic forces to raise the rate of growth of productivity in such a way as to offset the threat to it that will emanate, in the way I have described, from the balance of payments. So far, however, this possibility has been supported more by faith than by reasons. In the long run (dead though we may all be) it will be preferable to sacrifice the chance of a once-for-all increase of productivity to the preservation of its rate of growth. Let us hope, however, that this choice will not have to be made, but that some means can be found of exorcising the demon in our balance of payments without causing the death of European Free Trade.

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INTERNATIONAL TRADE AND INTERNATIONAL INEQUALITY

By G. M. MEIER

INSPIRED by a concern with economic development, critics of the orthodox theory of international trade are now more numerous, and their arguments more challenging, than ever before. The main thesis of the modern criticism is that, contrary to what traditional theory would lead one to expect, international trade has resulted in a tendency for the inequalities between rich and poor countries to grow. This criticism has been presented most fully in three recent studies by Gunnar Myrdal.[1]

In supporting his contention that international trade has operated as a mechanism of international inequality, Myrdal does not appeal to any simple notion of deliberate exploitation of the poor countries by foreign investors or foreign governments; Ricardo is not crudely confronted with Lenin. Instead, in a more sophisticated manner, Myrdal contends that the unhampered working of contemporary international market forces retarded the development of poor countries. In essence, Myrdal believes that international market forces have been unfavourable for the poor country by creating a highly unbalanced economy and by causing a secular deterioration in the terms of trade. There follow the policy conclusions that 'by itself freer trade would even tend to perpetuate stagnation in the underdeveloped regions'[2] and that there are sound reasons, based on their peculiar situation, for industrial protection in underdeveloped countries.[3]

This paper appraises Myrdal's arguments. It suggests that he has overdrawn the significance of international trade as a mechanism of inequality and that, in terms of the fundamental requirements for accelerating development, his emphasis on protection is misplaced.

I

The first argument—that underdeveloped countries find themselves in a severely unbalanced situation—is based on an analysis of the effects of international factor movements. It is claimed that the forces of migration, capital movements, and trade have been biased against the underdeveloped country. Thus, the flow of foreign capital to the poor country has developed only the country's natural resources for export, to the neglect of production

[1] Gunnar Myrdal, *Development and Under-Development: A Note On the Mechanism of National and International Economic Inequality*, Cairo, 1956; *An International Economy*, Routledge and Kegan Paul, 1956; *Economic Theory and Under-Developed Regions*, Duckworth, 1957.

[2] *An International Economy*, p. 2.

[3] Ibid., pp. 276–9.

in the domestic sector. Foreign enterprises, having access to capital, efficient management, modern techniques of production, and knowledge of market conditions, have turned the export sector into the most advanced part of the economy, but this imported Western capitalism has not penetrated very far into the indigenous economy. Foreign investments have become, to a significant degree, economic enclaves, and even when the enclaves have been large, as in mining or the plantation system, they have seldom been integrated into the local economy, but have remained attached to the interests of a metropolitan state.[1] A cleavage has resulted in which the plantations or mines of the export sector have remained an island of development surrounded by a backwater of subsistence agriculture. The economy has simply become biased towards export production.

It is also believed that the immigration of unskilled labour into poor countries has reinforced the dualistic structure of their economies. In countries which were at one time sparsely populated, the mass immigration of plantation and estate labourers allowed the supply of labour to remain highly elastic at the conventional low wage rate.[2] The rapid increase in population growth that has been common to most poor countries has also kept the supply of unskilled labour abundant and wages low.[3]

According to Myrdal, it is most significant that the underdeveloped economies are thus unbalanced as a result of 'a cumulative process away from equilibrium in factor proportions and factor prices, engendered by international trade'.[4] This is interpreted as being in contrast with the factor price equalization theorem of international trade: 'We thus see the strange thing that in recent decades, while international inequalities have been growing . . . the theory of international trade has developed in the direction of stressing more and more the idea that trade initiates a tendency towards a gradual equalization of factor prices and incomes as between different countries.'[5]

Once the unbalanced structure of the underdeveloped economy is attributed to the working of international forces, it is but a short step to advocating an 'infant-economy' type of argument for protection. In particular, Myrdal presents four special reasons for industrial protection in underdeveloped countries—'the difficulties of finding demand to match new supply, the existence of surplus labour, the large rewards of individual investments in creating external economies, and the lopsided internal price structure disfavouring industry'.[6] These reasons constitute a

[1] *An International Economy*, pp. 100, 178; *Economic Theory and Under-Developed Regions*, pp. 57–59.
[2] *An International Economy*, p. 100.
[3] *Economic Theory and Under-Developed Regions*, pp. 52, 58–59.
[4] *An International Economy*, p. 225.
[5] *Economic Theory and Under-Developed Regions*, p. 149.
[6] *An International Economy*, pp. 276–84.

generalization of the infant industry argument to the 'growing up' of the economy as a whole, and relate to the 'balanced growth' thesis. There are parallels with the argument for protection to maintain full employment, but in the context of a poor country special stress is placed on the elimination of disguised unemployment by moving excess labour out of agriculture into industry. Contrary to what traditional theory would maintain in criticizing protection, the advocate of protection claims that the transfer of the disguised unemployed into industry will not entail a loss elsewhere in the economy: there will be a clear gain in so far as agricultural output does not fall, and the output of import-competing products rises.

In evaluating the significance of the unbalanced structure of the underdeveloped economy, we may now ask whether this kind of structural disequilibrium can actually be attributed to international forces, and whether protection is the best means for its removal.

First, with respect to the inflow of foreign capital, we should recognize that the governments of many poor countries have desired to promote export trade in so far as this trade accounts for the bulk of their revenues. Accordingly, through concessions, subsidies, and the provision of ancillary services, they pursued policies designed to attract foreign investment to their export sectors. Moreover, foreign investment, regardless of its character, was not competitive with home investment. There is no reason to believe that in the absence of foreign investment a poor country would generate more domestic investment, or that, in the absence of foreign entrepreneurs, the supply of domestic entrepreneurs would be any greater. The historical experience of poor countries does not show an alternative between foreign or domestic investment, but rather between the foreign investment or only a very limited amount of domestic investment. It was not unbalanced international forces that limited domestic investment and entrepreneurship, but rather all the domestic obstacles associated with narrow domestic markets and the absence of co-operating factors in sufficient quantity and quality—the very impediments that made foreign capital and technical resources turn away from the domestic towards the export sector.

Regarding labour immigration, we should note that, although it may have tended to keep the wage rate low, nonetheless it did make it possible to avoid a barrier of labour scarcity in sparsely populated countries, and it did act as a permissive condition for the expansion of exports. Furthermore, the population pressures that have been experienced in most poor countries cannot be attributed to the migration of labour, but rather to falling mortality without corresponding declines in fertility.

As for an unbalanced economy being evident by the 'export bias' in

the poor country, we must question the implications of 'export bias'.[1] 'Export bias' may be taken to mean either an absolute overexpansion in the exports of primary products, or it may mean merely a relative overexpansion as compared with total production in the domestic sector. If protection is advocated to reduce the bias in an absolute sense, then protection may be criticized as conflicting seriously with the strategic roles that agriculture and exports must have in the development process. A poor country cannot afford to minimize agriculture. Its economy has a natural agricultural base, and this base cannot be neglected in view of a rapidly growing population. The notion of balanced growth should apply not only among industries but also between industry and agriculture: industrialization, by increasing the demand for foodstuffs and raw materials from the villages to the towns, requires an increase in agricultural production. It is, therefore, essential for agricultural development to precede, or at least accompany, industrial development, unless the country can expand its non-agricultural exports sufficiently and import the additional primary products—an unlikely prospect, however, for most poor countries, given their comparative cost structure and their desire to industrialize along import-competing lines.

Those critics who interpret the bias of agricultural exports in an absolute sense overlook not only the debilities of one-sided industrialization but also the indispensable role that exports must have in a development programme. Additional exports are needed to finance development and to gain essential imports, for an expansion in the poor country's output generally depends on output-creating imports, and as development progresses, the demand for raw materials and foodstuffs will rise. If development is then to proceed without encountering balance of payments disequilibrium, export receipts must increase—all the more so to the extent that the development programme requires a high import content or entails a restriction of foreign investment.

Recognizing this, Myrdal actually refers to export bias in the relative sense.[2] He expects protection to cause only a relative, not absolute, contraction of agricultural production. What this overlooks, however, is that, even if it is not directly designed to do so, the industrialization programme is likely to have indirect effects that are adverse for agriculture. Agriculture tends to suffer when the efforts of the government are concentrated on industrialization, resources are attracted to the industrializing sector, or the industrialization programme encourages inflation. There has been considerable evidence of this in Latin America, for instance.[3]

[1] Cf. H. Myint, 'Classical Theory of International Trade and the Underdeveloped Countries', *Economic Journal*, June 1958.

[2] *An International Economy*, p. 228.

[3] T. W. Schultz, 'Latin-American Policy Lessons', *American Economic Review*, May

Moreover, in taking the bias towards agricultural exports as an indication that there exists an obvious disequilibrium, Myrdal states that 'manufacturing industry presents, in a sense, a higher stage of production', and 'the productivity of man-power in industry tends to be considerably greater than in the traditional agricultural pursuits'.[1] But here there is a tendency to contrast the efficient manufacturing of an advanced country with the inefficient agriculture that presently exists in a poor country. In itself, primary production is not a cause of poverty; rather the cause is the low productivity in agriculture, and the relative concentration on primary production is merely an associative, not causative, characteristic of poverty.[2]

The relevant issues, therefore, are whether the productivity of labour in new industry would necessarily be greater than it is in agriculture, and whether the social returns from additional capital in agriculture might not be as large, or even larger, than in import-competing industries. The capacity to absorb capital might well be greater in agriculture, in so far as the scarcity of complementary factors with which industrial capital is to co-operate, especially managerial abilities and labour skills, is likely to cause bottlenecks in production and a sharp decline in the marginal productivity of capital as capital accumulates in industry. The absorption of capital in industry is also constrained by the necessity to avoid inflation and balance of payments disequilibrium.

Perhaps the most ambiguous part of the argument that protection should encourage industry relatively to agriculture is its dependence on the notion of disguised unemployment.[3] One would like to see more convincing evidence that there actually is in agriculture a substantial amount of labour with a marginal productivity of zero. In the light of experience in many poor countries, earlier statements about the extent of disguised unemployment now appear grossly exaggerated. Experience in several countries shows that 'programs based on disguised unemployment have not performed as expected: instead of labor resources responding to an increase in the money supply or to new industries in the way that one would have expected if there were considerable underemployment, workers act as if the marginal productivities of laborers in agriculture and in other fields are about the same'.[4]

1956, pp. 425–32; United Nations, *Processes and Problems of Industrialization in Under-Developed Countries*, 1955, pp. 72–74.

[1] *An International Economy*, p. 226.

[2] Cf. Jacob Viner, *International Trade and Economic Development*, Oxford University Press, 1953, p. 50; Simon Kuznets, *Economic Change*, Heinemann, 1954, pp. 222–5.

[3] *An International Economy*, pp. 193, 208–10, 277–8; *Economic Theory and Under-Developed Regions*, p. 95.

[4] T. W. Schultz, *The Economic Test in Latin America*, New York State School of Industrial and Labor Relations, Cornell University, Bulletin 35, Aug. 1956.

An increasing number of economists have become doubtful of the existence of disguised unemployment. Professor Schultz, for instance, maintains that he knows of no evidence for any poor country anywhere that would even suggest that a transfer of a some small fraction, say 5 per cent., of the existing labour force out of agriculture, with other things equal, could be made without reducing its production.[1] Benjamin Higgins also observes that

> the early easy optimism about transferring the 'disguised unemployment' from agriculture to industry has disappeared. It is recognized that in many underdeveloped countries *static* disguised unemployment in agriculture is at a very low level. . . . Substantial numbers could not be released from agriculture without a drop in agricultural production, unless the average size of holdings is increased and some degree of mechanization introduced.[2]

And Doreen Warriner states that the 'emphasis on over-population or "disguised unemployment" is most unfortunate because it concentrates on pure guess-work and diverts attention away from the ascertainable facts—the fall in output per head resulting from pressure of population on the means of subsistence, and the destruction of soil fertility'.[3]

Even if one grants, for argument's sake, that disguised unemployment might be identified and measured, nonetheless other policies might be advocated as being more effective in stimulating labour mobility than would protection. When the market system is so rudimentary and the economy is so rigid and inflexible, protection is unlikely to bring about the desired responses to price and income stimuli. And when occupational mobility is restricted by institutional and cultural barriers, extra-economic measures are required. Labour mobility might then be better encouraged by public investment in overhead capital, education and training, land tenure reforms, and by policies that foster cultural change. Expansion of commercial production and extension of small-scale village industry might also reduce the rural underemployment.

This leads to the general point that, in terms of overcoming the obstacles to development, the protection argument is misdirected. It should first be recognized that international forces have not prevented a marked secular growth of exports from the poor countries. Although Myrdal gives

[1] T. W. Schultz, 'The Role of Government in Promoting Economic Growth', in L. D. White (ed.), *The State of the Social Sciences*, University of Chicago Press, 1956, p. 375.

[2] B. Higgins, 'Prospects for an International Economy', *World Politics*, April 1957, p. 466.

[3] D. Warriner, *Land Reform and Economic Development*, Cairo, 1955, 23. The conception of surplus farm population has also been criticized with respect to the methods that have been used to estimate the surplus, and with respect to the assumption of given technical methods and social relations. See N. Koestner, 'Marginal Comments on the Problem of "Underdeveloped Countries"', *Wirtschaftsdienst*, Hamburg, May 1954; also G. Haberler, 'Critical Observations on Some Notions in the Theory of Economic Development', *L'Industria*, 1954, pp. 4–5.

the impression that the underdeveloped economies have been economically stagnant for a long time,[1] there is for many poor countries abundant evidence of a rapid growth in their exports and considerable movement away from dependence on subsistence farming to active participation in commercial production or wage-earning, as a result of integration into world markets.[2] Regarding productivity in underdeveloped countries, MacDougall concludes that it is 'quite conceivable that output per head has not risen, proportionately, so very much less rapidly in a good many underdeveloped countries than it has done in the U.S. during at least parts of the present century'.[3]

It is, however, true that, in spite of its secular expansion, the export sector has not always succeeded in propelling the rest of the economy forward. This contrasts with the past course of development in some countries that are now among the richest in the world. Looking back to a time when many presently rich countries were poor, one may say with Robertson that the 'specialisations of the nineteenth century were not simply a device for using to the greatest effect the labours of a given number of human beings; they were above all an engine of *growth*'.[4] The export sector was a key propulsive sector. As overseas demand widened the market for particular commodities, there were induced effects on the growth of other domestic industries, and on the creation of new factors and new products.[5] Exports created new effective demand, new production functions were established, and export expansion was used to finance necessary imports. The growth of exports had effects analogous to a rise in autonomous investment, which, in turn, induced additional investment; export expansion was thus a basis for a multiplier-accelerator process which caught hold and boosted the economy upwards. However, in the economies of countries such as the United States, Canada, Sweden, and Japan, the preconditions for accelerating growth had already been established; foreign investment and expanding exports were then able to play a significant role in supporting what Professor Rostow has called the 'take-off' into sustained growth.[6]

[1] See especially *An International Economy*, chaps. xi, xii.

[2] See, for instance, L. C. G. Knowles, *The Economic Development of the British Overseas Empire*, Routledge and Sons, 1924, pp. 36–37; P. T. Bauer, *West African Trade*, Cambridge University Press, 1954, pp. 47–50, 195–6, 201, 381–2; Sir Donald MacDougall, *World Dollar Problem*, Macmillan & Co., 1957, pp. 134–7; C. P. Kindleberger, *The Terms of Trade: A European Case Study*, John Wiley & Sons, 1956, p. 227.

[3] MacDougall, *World Dollar Problem*, op. cit., p. 137.

[4] Sir Dennis Robertson, 'The Future of International Trade', *Economic Journal*, Mar. 1938, p. 5.

[5] Cf. R. Robinson, 'Factor Proportions and Comparative Advantage', *Quarterly Journal of Economics*, Aug. 1956, p. 361.

[6] W. W. Rostow, 'The Take-Off into Self-Sustained Growth', *Economic Journal*, Mar. 1956, pp. 40, 44–47.

This has not happened in poor countries in spite of the secular rise in their exports. However, instead of attributing the difficulty to unbalanced international forces, as does Myrdal, one might more reasonably locate the obstacles in the prevailing economic and social conditions within the poor countries.[1] The existence of monopolistic and monopsonistic elements, ignorance of market conditions, limited specialization in occupations and trade, and other obstacles that can be included under the general term of market imperfections have all united to prevent an advance in the export sector from being diffused through the economy. So too have all the cultural and psychological elements involved in a value structure that minimizes the incentives for economic change, weakens entrepreneurial motivation, and limits labour mobility.

In view of this interpretation of the impact of a country's foreign trade upon its development, it seems inappropriate that Myrdal should concentrate so much on the factor price equalization theorem. On the one hand, the classicists' optimism regarding the effects of trade upon development did not depend to any significant extent on the tendency towards factor price equalization, but was based for the most part on the gains from specialization according to comparative advantage and on the view that foreign trade could be an activator of change along the dynamic lines discussed above. On the other hand, formulations of the factor price equalization theorem were never intended to mean that equalization will actually hold, or that the theorem is a valid empirical generalization.[2] The theorem depends on the explicit assumptions that production functions in different countries are identical for the same commodities, the quality of each factor is identical in the different countries, and partial specialization exists. In so far as poor countries utilize production techniques that differ from those of rich countries, the quality of factors is inferior in poor countries, and much of the trade between poor and rich countries is based on complete specialization, one need not be surprised to find that the absolute returns to factors have not been equalized, and that factor prices have remained higher in rich countries in spite of international trade. But instead of claiming that international trade is the cause of this inequality, we may more appropriately say that the inequalities have persisted simply because actual conditions have deviated from the initial optimum conditions postulated by the factor price equalization theorem. In the face of all the domestic market imperfections already discussed, the marginal products of each factor could not become equal in rich and poor countries, and commodity trade could not be a complete substitute for factor movements.

[1] Cf. H. Myint, 'The Gains from International Trade and the Backward Countries', *Review of Economic Studies*, 1954–5, p. 141.

[2] P. A. Samuelson, 'International Factor-Price Equalisation Once Again', *Economic Journal*, June 1949, p. 182.

From this, the policy conclusion of protection does not follow, but rather the conclusions that it is necessary to remove the domestic market imperfections so that market forces might operate more effectively, and that it is necessary to remove the impediments to international factor movements so that the movement in the direction of equalization might be more substantial. Although a better balance in the underdeveloped economy does require more transformative effects of the market sector on the subsistence sector, the means of achieving this does not lie in a restriction of foreign trade.

At most, the case for protection rests on a 'second-best' argument:[1] since there are divergences between marginal values and costs elsewhere in the economy, it can be held that a policy of protection is better than no policy whatsoever. But it would be even better to attack the divergences directly through policies designed to promote investment in the underdeveloped sector, increase the knowledge of market conditions, reduce the imperfections in factor markets, and create greater opportunities for technical substitutability of factors. Not only must economic organization be transformed, but social organization—as represented by such major institutions as caste, the joint family, the village, the church, and the school—must also be modified so that the basic complex of values and motivations might be more conducive to development. If these internal limitations to development were reduced, then adjustments could more readily be made to changing conditions in international trade, and advances in the export sector could have more favourable repercussions throughout the economy. An expansion in foreign exchange receipts would then be more readily ploughed back into productive investment, instead of being used, as at present, to finance hoards, capital flights, imported semi-luxuries, or investment of low productivity. The domestic supply of entrepreneurship could also be increased, and there could be more imitation of the advanced techniques used in the export sector. In short, the 'spread effects' of momentum from a centre of expansion, which Myrdal considers to have been so instrumental in the development of rich countries,[2] would then become relevant to the poor countries as well.

II

Myrdal has also overdrawn the significance of the argument that poor countries have suffered a long-term deterioration in their commodity terms of trade and that this has inhibited their development. Although he leaves the actual historical trend of prices as a moot question,[3] he nonethe-

[1] Cf. J. E. Meade, *Trade and Welfare*, Oxford University Press, 1955, chap. xiv.
[2] *Economic Theory and Under-Developed Regions*, pp. 31–33.
[3] *An International Economy*, p. 231.

less believes that 'most of the underdeveloped countries are saddled with a basket of traditional export goods . . . the prices of which have been lagging behind'.[1] And in giving content to the assertion that for underdeveloped countries the general level of their export prices has been 'too low' Myrdal does lend support to the Singer–Prebisch thesis that the terms of trade between world agriculture and manufacturing shifted to the advantage of manufacturing because monopolistic elements in their product and factor markets allowed industrial countries to keep the benefit of their technological progress in the form of rising factor incomes, whereas in primary producing countries the gains in productivity have been distributed in price reductions.[2]

The Singer–Prebisch argument has frequently been used to substantiate the claim that between the 1870's and the 1930's there was a secular downward trend in the prices of primary goods relative to the prices of manufactured goods. This claim, however, is based not on the measurement of prices within the poor countries, but rather on inferences from the United Kingdom's terms of trade or the terms of trade between primary products and manufactured products.[3] The United Kingdom's terms of trade cannot be used simply in reverse as a measure of the terms of trade of countries exporting to the United Kingdom, for these countries also traded with third countries.[4] Nor are the commodity terms of trade between primary products and manufactured products the same as the terms of trade between poor and rich countries. And within the broad category of primary products it is unreasonable to believe that the prices of foodstuffs, raw materials, minerals, and petroleum all moved together. Since the exports of primary products from poor countries are varied, any generalization based on an aggregation of primary products is undoubtedly wide of the mark.

Many reservations must also be attached to the price series from which these trends are computed. The absence of provision for new products and changes in quality, and the neglect of declining transport costs are most serious. The introduction of new products and qualitative improvements have been greater in manufactured than in primary products, and

[1] Loc. cit.

[2] Ibid., pp. 232–3; *Economic Theory and Under-Developed Regions*, pp. 52, 58; H. W. Singer, 'The Distribution of Gains between Investing and Borrowing Countries', *American Economic Review*, May 1950, p. 478; United Nations, Economic Commission for Latin America (Raul Prebisch); *The Economic Development of Latin America and its Principal Problems*, New York, 1950, pp. 8, 10.

[3] United Nations, Department of Economic Affairs, *Relative Prices of Exports and Imports of Under-Developed Countries*, New York, 1949, pp. 7, 13–24; W. A. Lewis, 'World Production, Prices and Trade, 1870–1960', *Manchester School*, May 1952, p. 118.

[4] Cf. Kindleberger, op. cit., p. 232. Kindleberger's indexes of the terms of trade of industrial Europe by areas differ considerably from those of the United Kingdom. See pp. 53–56, 233–7.

to this extent the data have a systematic bias which makes changes appear less favourable to the primary producing countries than they actually were. During the 1880's and 1890's, when Britain's terms of trade improved the most, there was also a large decline in transport costs.[1] If British data are used to indicate even indirectly the terms of trade of primary producing countries, the recorded terms of trade should be corrected for shipping charges, since the United Kingdom quotes the value of its commodity trade f.o.b. for exports and c.i.f. for imports. The decline in ocean freights actually allowed primary producers to receive a larger and larger proportion of the value in Britain and other importing countries of the products they exported and allowed them to pay for their industrial imports prices that were above the export prices in Britain and other industrial countries by a smaller and smaller proportion.[2] Professor Ellsworth has concluded that

> a large proportion, and perhaps all, of the decline in the British prices of primary products in the period between 1876 and 1905 can be attributed to the great decline in inward freight rates. . . . Since the price of British manufactured exports fell in this period by 15 per cent., the terms of trade of primary countries, were f.o.b. prices used for their exports as well as for their imports, may well have moved in their favor.[3]

However, even if the commodity terms of trade did deteriorate in poor countries, the question still remains whether this was a significant obstacle to development. It might have been so if the deterioration had also entailed a negative production effect in the sense that the input of factors per unit of exports had increased, or if it entailed a negative income effect in the sense that it reduced the country's purchasing power on international markets. But if the production effect is to be considered, the relevant index is then the 'factoral terms of trade'.[4] In so far as productivity in its export production increased, any deterioration in its commodity terms of trade was not so unfavourable for the poor country. Indeed, a country's factoral terms of trade may even improve at the same time that its commodity terms of trade deteriorate, and this will be a favourable situation

[1] See L. Isserlis, 'Tramp Shipping Cargoes and Freights', *Journal of Royal Statistical Society*, 1938, pp. 76, 122; C. M. Wright, 'Convertibility and Triangular Trade as Safeguards Against Economic Depression', *Economic Journal*, Sept. 1955, pp. 424–5.

[2] Cf. T. Morgan, 'The Long-Run Terms of Trade between Agriculture and Manufacturing', *Econometrica*, Apr. 1957, p. 260. Using data from six countries other than the United Kingdom, Morgan concludes that the data do not show a general worsening of the price position of primary producers. Of these series for the United States, India, Japan, New Zealand, the Union of South Africa, and Brazil, two show a major relative price rise for primary products, and the rest show various changes or are ambiguous.

[3] P. T. Ellsworth, 'The Terms of Trade between Primary Producing and Industrial Countries', *Inter-American Economic Affairs*, Summer 1956, pp. 55–57.

[4] Jacob Viner, *Studies in the Theory of International Trade*, Harper, New York, 1937, p. 561; Sir Dennis Robertson, 'The Terms of Trade', *International Social Science Bulletin*, Spring 1951, p. 29.

if the deterioration in the commodity terms of trade is less than the increase in productivity.

For the income effect, the relevant measure is the income terms of trade (commodity terms of trade multiplied by the quantity of exports).[1] This shows the volume of imports obtainable from the income earned from exports. Since exports from the poor countries have grown so considerably, their income terms of trade have undoubtedly tended to improve. Accordingly, the volume of imports purchasable with export income rose, notwithstanding any possible deterioration in the commodity terms of trade.

A general conclusion on secular movements in the terms of trade is thus unwarranted. But even if there has been a deterioration in the past, it does not follow that poor countries should now impose import restrictions to forestall an anticipated deterioration in their terms of trade. Trends in the past cannot simply be extrapolated into the future. It may be argued that in the future the terms of trade may improve in primary producing countries as the world supply of primary products becomes relatively more scarce because of rising populations, diminishing possibilities for extending primary production in the new areas of settlement, the growth of industry in rich countries, and the movement of labour out of agriculture. Moreover, as Myrdal recognizes,[2] it is extremely doubtful that the poor countries have sufficient monopoly or monopsony power to improve their terms of trade by imposing import or export duties. Even if monopolistic co-operation were practicable, the gain would be only a short-term gain that could be quickly negated by retaliatory measures or by changes in the value of the demand and supply elasticities.[3]

III

We conclude that much of Myrdal's criticism does not rest on solid historical and analytical foundations, and that the notions of disguised unemployment and a secular deterioration in the terms of trade are much too ambiguous to support the policy conclusion of protection.

Admittedly, Myrdal's criticism has served to point up the excessive optimism of the nineteenth century's faith in progress. Although traditional theory envisaged foreign trade as an important activator of economic change, this has failed to occur in many poor countries. But the lack of 'carry-over' is to be attributed to domestic obstacles rather than

[1] Viner, *Studies in the Theory of International Trade*, op. cit., p. 563; also, G. S. Dorrance, 'The Income Terms of Trade', *Review of Economic Studies*, 1948–9, pp. 50–56.

[2] *An International Economy*, pp. 262–4.

[3] If a tariff does improve the terms of trade, it is, of course, to that extent less protective. Considering underdeveloped agricultural countries, Professor Metzler has also indicated the limitations to a policy of industrialization by means of protective tariffs; L. A. Metzler, 'Tariffs, The Terms of Trade, and the Distribution of National Income', *Journal of Political Economy*, Feb. 1949, pp. 19–28.

to any international mechanism of inequality. The remedy does not lie in policies of protection and deliberate industrialization at the expense of agriculture and foreign trade. Instead it depends on the promotion of those domestic conditions—particularly in the political, social, and institutional framework of the economy—that will permit the expansion of the export sector to induce secondary changes in the domestic sector. If this is accomplished, foreign trade might then also serve the poor countries as an 'engine of growth'.

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THE KEY ROLE OF THE VELOCITY OF CIRCULATION OF MONEY AND CREDIT

By ERIN E. JUCKER-FLEETWOOD

THE velocity of circulation of money and credit has usually, by students of monetary theory, been treated as a fairly constant factor in the economy, at any rate in the medium run. In 1957, however, when watching the decreasing speed with which the classical tools of monetary policy—chiefly increases in discount rates—take effect even when the money supply of different economies is not being allowed to expand, it is pertinent to ask whether this assumption of velocity being fairly constant is justified. Was there ever any reason to assume that the velocity of circulation was constant, and if so are there any reasons to believe that conditions which existed have been changed? Has the economic structure become more sensitive in this respect and if so why?

Even the most ardent of the quantity theorists have not maintained that the velocity of circulation of money and credit should remain constant for the same economy over decades if that economy were subject to important structural changes. Not only real factors have to be allowed for here but also changes in the banking structure, in the degree of utilization of money and credit by the population, and in the size of the relative money supply (money supply as a percentage of the national income or gross national product). On the other hand, it was realized that during 'transition periods' or credit cycles the velocity of circulation is likely to increase or decrease above or below its 'normal' level.[1] Thus the idea that the velocity of circulation was constant was restricted to the medium period and it was recognized that both over very long periods and over very short ones the velocity of circulation of money and credit would change.

There were two main reasons why this idea persisted. On the one hand there were no really good statistics with which to prove the contrary. National income and gross national product statistics are both fairly recent statistical concepts only available at a considerable lag. They were not a tool that could be used quickly, or to measure very fast and sensitive current changes. The statistics of money supply were more easily available, but it is only since the standardization enforced by the International Monetary Fund that these figures are similar enough to allow even tentative international comparisons. On the other hand, the statistics that were available for an early period were those for the United States and there is reason to suppose that from 1899 up to 1914 and possibly up to 1929 the

[1] Irving Fisher, *The Purchasing Power of Money*, New York, 1911, pp. 55–73.

fundamental upward trend of that economy was so strong that the velocity of circulation of money and credit was fairly constant, i.e. that the average and the marginal velocity had the same value.[1]

The clearest investigation into this question in recent years is probably that of Professor James W. Angell.[2] Angell compared the national income with the money supply of the United States for the years 1899–1939. For the years 1899–1929 Angell found that the *marginal* velocity of circulation of 'active' money was 3·03 and that this 'was also substantially the *average* ratio (3·00) through any one business cycle period'.[3] Thus for these years, he concludes that increases in the money supply, i.e. the new or incremental money and credit, were spent at substantially the same rate as the total money supply.

The most interesting theoretical result of Angell's investigation is that he pointed out that identity—or virtual identity—between average and marginal velocity is 'normal'[4] because anticipations are then constant and the liquidity preference for money is also constant. When, on the other hand, there is a divergence between the average and marginal velocities there is a 'non-stable' situation. Angell did not consider changes in velocities as 'casual' factors but went back to 'anticipations'. The precondition for average and normal velocities to be constant is, of course, that the supply of money is increased or decreased at the same rate as the national income (or the gross national product).

In this study, the changes in velocities due to changes in anticipations will be considered as autonomous changes, i.e. causal changes, whereas the changes in velocity due to (relative) changes in other factors, such as money supply, prices, turnover, will be considered as induced changes.[5]

On the other hand, Angell's definition of a 'normal' relationship is accepted. If the changes in the money supply are in tune with those of the economy as a whole, the divergence should be slight. However, the monetary authorities may not wish to let the cumulative market forces have full play and may therefore wish to curb a runaway influence. The changes in velocities here would then be induced. The same applies to the opposite movement. It is therefore clear that Angell's definition for 'normality' applies only to an economy in a moving equilibrium.

[1] Definitions are given below, p. 292.

[2] James W. Angell, *Investment and Business Cycles*, New York, 1941. See also Richard Seldon, 'Monetary Velocity in the United States' published in *Studies in the Quantity Theory*, ed. Milton Friedman, Chicago, 1956, pp. 179–257. This important contribution to the study of velocities reached the author after this article had been written.

[3] Angell, loc. cit., p. 150. The regression equation of income Y on money M for this period is $Y = -0{\cdot}17 + 3{\cdot}03M$, the correlation coefficient is 0·96.

[4] Loc. cit., pp. 150 ff.

[5] For a more extensive discussion of autonomous and induced changes in velocities see Erin E. Jucker-Fleetwood, *Economic Theory and Policy in Finland 1914–1925*, Blackwells, 1958, pp. 10 ff., and 42 ff.

While there are no major reasons to quarrel with Angell's main statistical results for 1899–1929 there is reason to wonder whether Angell's preparation of his figures has not tended to tone down his results. Angell made an allowance for hoarding, and, assuming that 10–15 per cent. of the money supply could be regarded as being permanently in hoards, he deducted a corresponding amount from the figures he used for the money supply thus obtaining what he called the 'active' money. In an investigation of the velocity of circulation, however, a permanent proportion of hoards has no place for it is precisely the changes in the amount of money persons are prepared to hold that affect velocity.[1] Angell recognized this factor in his text on the violent changes he found for 1929–39[2] but did not draw all the conclusions he might have done. As will be shown below, Angell's results, at any rate for the period 1914–39, underestimate the fluctuations in velocity obtained when the total money supply is used.

In the following investigation the figures for the money supply (M) used are calculated according to the definition of the International Monetary Fund, or, if they have proved unobtainable, the very closest possible approximation has been used. The money supply has been compared to the national income (Y) as gross national product figures are not available for all the four countries Finland, Sweden, the United Kingdom, and the United States for the full period.

The method of calculation has followed Angell's lead. The long period 1914–57 has been subdivided into shorter periods, which are more or less the same for the different countries. For each period and country two velocities have been calculated, namely:

1. The average velocity of circulation of the whole money stock. This is the national income divided by the money supply, or the ratio Y/M, calculated yearly (see Table B of the appendix) and averaged for the period.

2. The marginal velocity of circulation of increments to the money supply. This is obtained by means of regression equations which give the rate of increase of the straight line through the data according to the equation

$$Y = a+bx \quad \text{thus} \quad \frac{dy}{dx} = b.$$

The regression equations and the correlation coefficients for 1914–53 are given in full in Table A of the Appendix. The correlation coefficients are high. All are over 0·90 and half are over 0·98.

The results for 1914–53 have been summarized in Table I and are shown

[1] Seldon even includes time deposits in his money supply. Loc. cit., pp. 234 ff.
[2] Angell, loc. cit., pp. 142 ff.

graphically in Graphs 1–4. The results for 1953–7 are given on pp. 304–8 and graphically in Graphs 7 and 8. It is seen that the average velocity of circulation remained comparatively stable within each country for the whole period 1914–53 (with the possible exception of Finland) whereas the marginal velocity fluctuated violently.

Before discussing the economic significance of the results obtained a few words should be said about the assumptions implicit in the method used.

TABLE I

Average (A) and Marginal (B) Velocities of Circulation, 1914–53

	Finland			*Sweden*			*United Kingdom*			*United States*		
Period	*A*	*B*	*B as % A*	*A*	*B*	*B as % A*	*A*	*B*	*B as % A*	*A*	*B*	*B as % A*
1914–18	5·37	4·48	83·43	3·47	2·38	68·59	n.a.	n.a.	..	2·88	3·73	129·51
1922–9	9·26*	22·77*	245·90	4·11	..§	..	3·21	..‖	..	3·09**	4·54**	146·93
1932–8	9·82	5·90	60·08	3·88	3·30	85·05	2·96	2·34	79·05	2·25††	2·63††	116·89
1939–45	3·92†	2·96†	75·51	3·13	2·27	72·52	2·65	1·27	47·92	2·25	1·95	86·67
										2·29‡‡	1·56‡‡	68·12
1946–53	6·64‡	10·46‡	157·53	3·04	3·95	129·93	2·14	7·73	361·21	2·14	6·24	291·59

* 1919–28. † 1939–44. ‡ 1945–9. § See text, pp. 292–302. ‖ See text, pp. 299–302.
¶ 1931–8. ** 1921–9. ††1933–8. ‡‡ 1941–5.
Source: Tables A and B in Appendix.

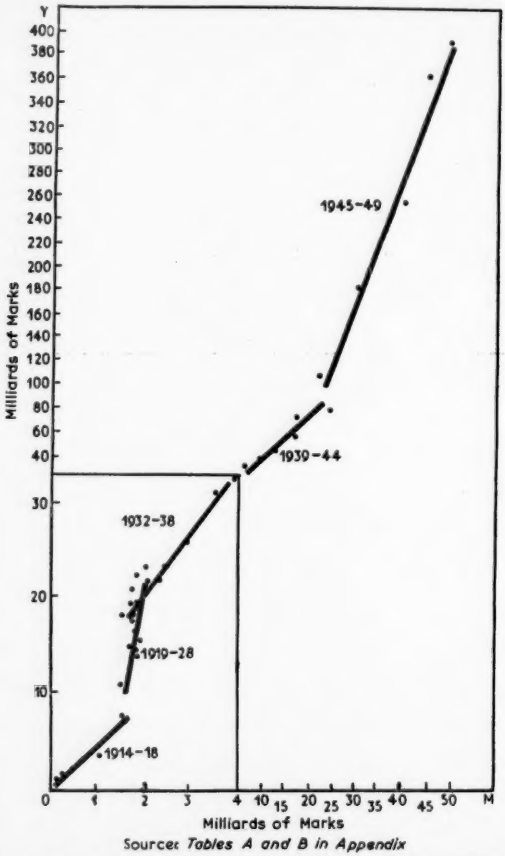
1. In the first place the autonomous changes in velocity are supposed to have taken place outside the periods for which regression equations are calculated. Further, it is assumed that the rate of change of the velocity is constant within the period. This is necessarily an abstraction, but not too serious a violation of reality, otherwise the correlation between the national income and the money supply would not be high. An inspection of the results also shows that in the periods where this constant rate of change of the velocity could be expected to be subject to pressure from induced changes, e.g. during World War II, the correlation is less good.

2. Secondly the method assumes that all the changes in velocity are produced by the increments to the money supply, while the initial money supply continues to circulate at its initial velocity. This too is an abstraction which will have to be allowed for. However, new money, created for the specific purpose of being spent, is liable to have a velocity different to that of the initial money supply which tends to be bound to its customary velocity. The rate of change of the new money, the marginal velocity, will also give an indication of the direction and intensity of the changes in the velocity of the total supply of money.

3. The marginal velocity of circulation can be obtained by this method only when a linear relationship can be assumed between the national income and the money supply. When this is not the case, such as in Sweden and the United Kingdom in the 1920's, another approach much be used.

Wars and Depressions: Low and Falling Velocities

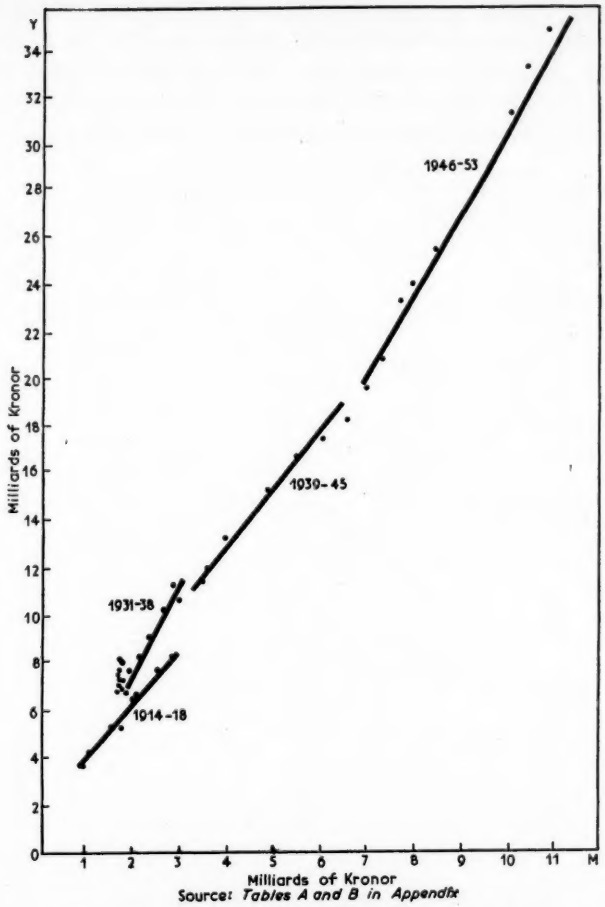
Examining the two war periods first, it is seen that for Finland and Sweden during World War I and for these countries, the United Kingdom, and the United States during World War II the marginal velocity, given in column B of Table I, was below the average velocity in column A, which



Source: *Tables A and B in Appendix*

GRAPH 1. Finland: National Income and Money Supply 1914–1949.

results confirm that the latter was falling throughout these periods (see Table B of the appendix). This corresponds to the well-known fact that, during war-time, savings were larger than in more normal periods. In both wars, individuals had to keep their money because they could not buy goods. During World War I this was enforced, in spite of price increases, by the 'natural' scarcity of goods whereas during World War II the state controls made saving the only possible use for spare cash. The efficacy of

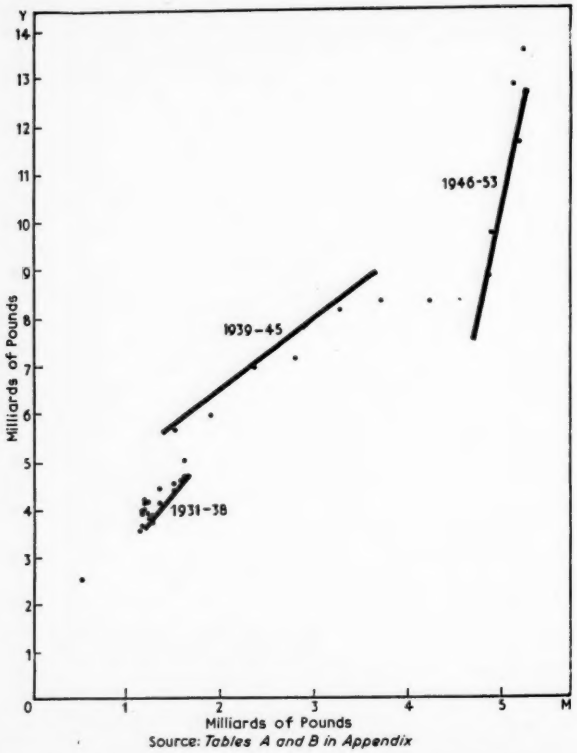


GRAPH 2. Sweden: National Income and Money Supply 1914–1953.

the state controls is shown by the very much lower marginal velocities obtained for the years 1939–45 than for 1914–18.

The exception for World War I is the United States where the marginal velocity is higher than the average, which was increasing. This is, of course, due to the fact that the United States never had a 'war-time economy' during those years. All resources, monetary as well as real, were used at first for the continuation of an ordinary peace-time economy accelerated by the production of war supplies for export. Even after the entry into the war in 1917 the United States never suffered from shortages as, the American waters being then beyond the reach of enemy action,

imports (in spite of shipping shortages) could always be secured to supplement an almost self-sufficient economy thus making controls unnecessary. What monetary resources were available—and the money supply was increased by 56 per cent. in the years 1914–18—were used at an accelerated rate in order to generate more real resources faster.

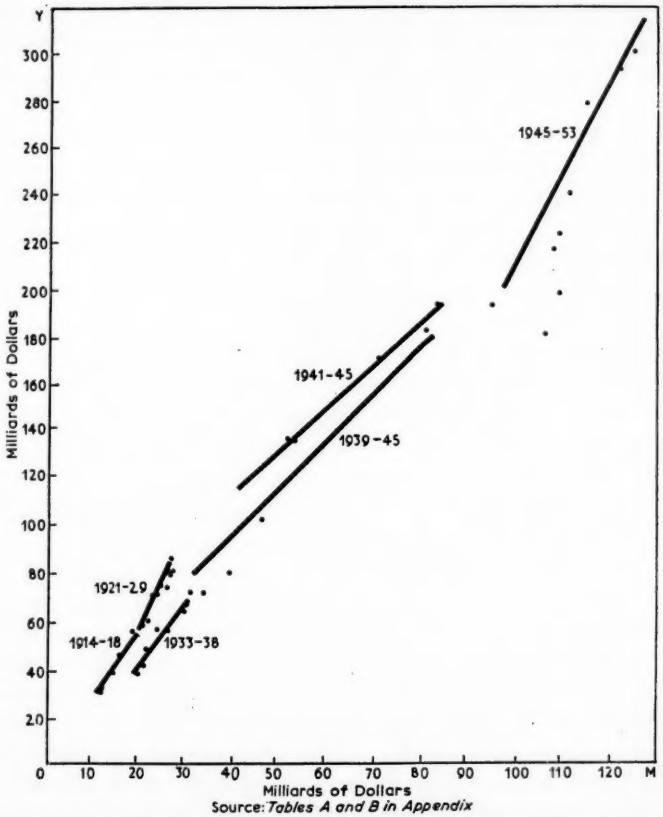


GRAPH 3. United Kingdom: National Income and Money Supply 1914–1953.

The period 1932–8, the trough of the Great Depression, is in some ways similar—from the point of view of velocity—to the war periods. The results obtained for Finland, Sweden, and the United Kingdom show the same movement. Everywhere the average velocities of circulation are higher than the marginal velocities. Thus the increases in the money supply—which were very considerable—only increased the national income at a less than average and a decreasing rate. These results are also confirmed by the falling average velocities during 1932–8 shown in Table B.

This phenomenon was called by Angell 'marginal pessimism' and he laid the chief blame for the decreasing velocities on psychological factors. The

autonomous change in velocity came, however, as a result of the depression and in the American economy also by a not inconsiderable decrease in the money supply due chiefly to bank failures in 1929–32 and not to official policy. The falling velocities found during the 1930's were induced by, on the one hand, the increases in the money supply and, on the other, by the



GRAPH 4. United States: National Income and Money Supply 1914–1953.

failure to bring about a positive change in the trend of the economy. This was due to some very real factors. There was amongst others the New Deal increase in the general level of wages—thus causing disequilibrium between cost and prices—the devaluations, and the introduction of trade control.

In the United States the marginal velocity obtained for 1933–8 was slightly higher than the average. The latter was, however, itself nearly one-third lower than the average for the years 1921–9, namely 2·248 as

compared to 3·92. The marginal velocity in 1933–8 was 2·643.[1] This result, however, can hardly be considered as typical for the whole period for the sharp increase in the national income in 1936 and 1937 weighs heavily in the calculation.

Summing up for the war and depression periods it is seen that, for completely different reasons, there is a standard pattern of low and falling velocities. The increase in the national income was smaller than would have been 'normal' for the increases in the money supply. The known facts of economic policy or its helplessness can only confirm this result.

The Problem Years 1919–28: High Velocities

The crisis of 1921 affected three of the countries being discussed and two of these, Sweden and the United Kingdom, subsequently returned to the gold standard at their prewar parities. Such adjustments necessarily affected money supply, national income, and velocity.

For the purposes of comparison it is, however, useful to study the comparatively straightforward countries first.

In the United States the average velocity of circulation gives for the period 1921–9 a value of 3·093 while the marginal velocity amounted to 4·538. This increasing tendency is confirmed by a steady growth in the yearly figures for the average velocity from 2·875 to 3·337. The higher marginal velocity of circulation, however, shows that increments to the money supply were being used at a much faster rate than the total money supply; and any study of the stock exchange boom confirms the fact that money and credit were being used as fast as possible. The money supply was increased by 25·9 per cent. partly due to the fact that the monetary authorities did not have sufficient means of stopping the monetary expansion. Some restraint was applied, however, in the latter years of the boom. By then the national income had increased by 43·7 per cent., thus considerably more than the money supply.

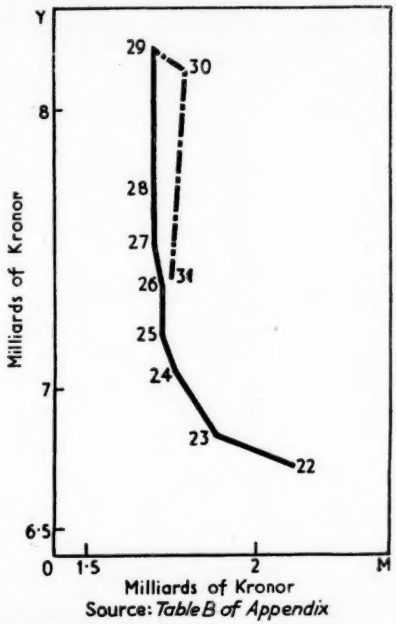
In Finland, which was not really affected by the 1921 crisis, the average velocity of circulation was 6·64[2] for the years 1919–28, while the marginal velocity was 22·77. As has already been pointed out[3] Finland during these years enjoyed an unparalleled boom, the national income increasing by nearly 100 per cent. while the money supply only increased by 33 per cent. The major part of this increase in the money spent took place in 1919–22, the money volume not again reaching this level before 1927. It is therefore not surprising that money and credit were being more effectively used.

[1] Angell, loc. cit., p. 152, obtained for the United States a lower marginal velocity than an average. His assumption of a very high proportion of hoards probably wiped out the effects of the 1936–7 boom.

[2] Due to its low relative money supply Finland normally has very high velocity figures.

[3] Jucker-Fleetwood, loc. cit., pp. 50 ff.

The Bank of Finland's very restrictive monetary policy, even after the return to the gold standard at a lower parity in 1925, was probably necessary in view of the speculative tendencies exhibited in Finland immediately after the war and also in view of that country's low propensity to save.



Source: *Table B of Appendix*

GRAPH 5. Sweden: National Income and Money Supply 1927–1931.

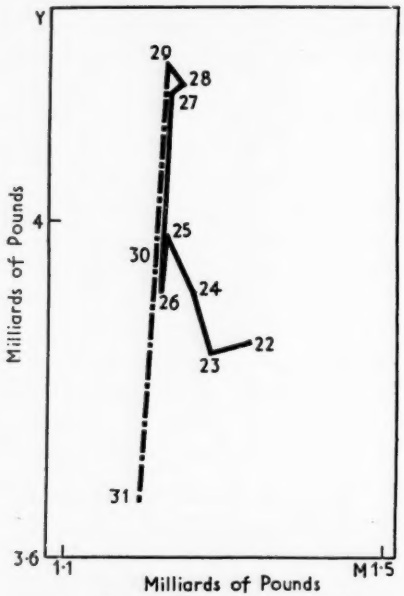
It is, however, very probable that there was a 'scarcity of money' in Finland during those years.

In Sweden and in the United Kingdom for the years 1922–9 the assumption of a linear relation between the national income and the money supply cannot be made. As is shown in Graphs 5 and 6 the money supply decreased in both countries; in 1922–5, the years in which the return to the gold standard at the old parity was prepared, the decrease was considerable while after 1925 it was very slight, disappearing for the last two years of the period, the money supply then being stable. On the other hand, the national income increased over this period by 22 per cent. in Sweden and 8 per cent. in the United Kingdom. Mathematically a curve could be fitted through the points, but it would mean nothing in economic terms. It is therefore not possible to calculate a marginal velocity of circulation.

The increase in the velocity of circulation not only fully compensated the deflationary pressure of the decrease in the money supply but also

financed the increase in the national income.[1] The average velocity in Sweden was 3·17 in 1922 and in 1929 it was 4·81 having increased by 52 per cent.; for the United Kingdom the figures were 2·9, 3·4, and 16 per cent. respectively.

An attempt has been made to calculate the deflationary pressure exerted by the decrease in the money supply by assuming that the average velocity



Source: *Table B of Appendix*

GRAPH 6. United Kingdom: National Income and Money Supply 1922–1931.

of circulation obtained for the period 1922–9—4·11 in Sweden and 3·21 in the United Kingdom—was valid also for the decrease of the national income. In Sweden the decrease would have been Sw. Kr. 1·685 million or 25 per cent. of the national income in 1922 and in the United Kingdom it would have been £3·22 million or 8 per cent. of the national income in 1922. The increase in the velocity of the money supply thus not only compensated this deflationary tendency but also allowed the above-mentioned increases in the national income. Adding the theoretical and the actual increase in the national incomes, total increases are obtained of the order of Sw. Kr. 3·190 million or 47 per cent. of 1922 and £617 million or 16 per cent. of 1922. These percentage increases correspond closely to the increases in the average velocity of circulation 1922–9 given above,

[1] The increase in the national income was due to a strong demand on internal and external markets.

namely 52 per cent. in Sweden and 16 per cent. in the United Kingdom. Thus, though no marginal velocity can be calculated, the conclusion can be reached that the average velocities were subject to a high and increasing rate of change.

The fall in the money volume and the slow increase in the national income[1] in the United Kingdom in 1920–5 is, of course, explained by the crisis of 1921 and the return to the gold standard at the prewar parity in 1925 with structural sector weakness in mining, cotton, etc. contributing. While little enough could probably have been done to cushion the decrease in the money volume over the crisis, it is possible that, if the authorities had, as in Finland, taken an early stand for a return to a gold standard at a depreciated level, it would have been possible to counteract the expectation that the pound would 'of course' return at its old parity. This whole movement was, as has been pointed out by Per Jacobsson in the case of Sweden, autonomous (the exchange rates tended to par because they were expected to) and tied the hands of the monetary authorities, which also had to keep in mind that the pound was the most important international currency. Among the very few who at the time doubted the wisdom of a return to the gold standard at a prewar parity are to be found Per Jacobsson[2] and John Maynard Keynes.[3]

From 1925 onwards the lack of expansion in the money volume in the United Kingdom was due chiefly to international monetary pressure. More than the full current new supply of gold—at that time the major stimulating influence—was absorbed by France (because of an overvalued currency) and the United States. The realization of the depressing effect of this monetary phenomenon—world demand was not inconsiderable—led to very serious deliberations for years in the League of Nations' Financial Committee and elsewhere. The views held there received wide publicity by their publication in 1930 in the shape of a study[4] signed by Sir Henry Strakosch as a special supplement to *The Economist*. The absolute need for an expansion of the money supply had been recognized for years and all the suggestions during the 1920's for economizing gold by some form of gold exchange standard were attempts to solve the problem. It was only after the abandonment of the gold standard

[1] The lag shown by Great Britain has seldom been recognized. In the volume *Industrialisation and Foreign Trade*, League of Nations, 1945, II.A.10, written by Folke Hilgerdt, annual indices of manufacturing production are given (p. 134) for fifteen countries. The United Kingdom is the only country which does not reach its 1913 level before 1929—having been at 55·1 per cent. (Germany 74·7 per cent.) in 1921. The world level in 1929 was 153·3 per cent. and the German level, the next lowest, was 117·3 per cent.

[2] *Målet för vår valutapolitik* (*The Aim of Swedish Monetary Policy*), Svensk Handelstidning on 18 Feb. 1921.

[3] *Tract on Monetary Reform*, London, 1923.

[4] '*The Crisis*'. *A Memorandum*, Supplement to *The Economist*, Jan. 9th, 1932.

in the 1930's—due to the failure of the 1933 London Economic Conference[1] —that Keynes could suggest expansion on the basis of budget deficits.

It is very probable that, had it been possible to expand the money supply in the United Kingdom in 1925–9 at least at the same rate as during 1932–8, namely at the rate of £90 million a year, the national income would have responded—the yearly average velocity of circulation was increasing[2]—and that then there would have been more money in the economic system to cushion the effects of the depression of the 1930's.

The reasons for the fall in the money supply in Sweden were similar to those in the United Kingdom. However, the dynamic forces in the Swedish economy, the world demand for forest products, made an expansion of the national income possible. It is, however, interesting that an important comparative study made of the 1920's and 1930's came to the conclusion that the latter, so-called depression years, were less unfavourable than the earlier decade.[3]

The years 1919–29 were characterized by a demand so strong that it led to high and increasing average velocities of circulation. In the two countries, Finland and the United States, where the money supply increased, these increasing average velocities are reflected in high marginal velocities. In Sweden and the United Kingdom the money supply at first fell and then remained stable. In spite of this, the national income increased, the velocity of circulation increasing sufficiently both to compensate the deflationary effect emanating from the fall in the money supply and to allow a further increase in the national income. A calculation made of the size of the theoretical and actual increase in national income brought about by the increase in the velocity of circulation shows that it is of the same relative size as the increase in average velocity in 1922 to 1929.

The Inflationary Post-War Years 1946–53

High and Increasing Velocities in spite of Increases in Money Volume

A complete contrast is found for the years 1946–53; they were post-war years too but of a very different kind to those after World War I.

In all four countries examined, as is shown by a glance at the last line of Table I, the marginal velocity of circulation was higher than the

[1] The failure was due to the precipitate and unco-ordinated devaluation of the dollar done in the hope—largely illusory—that it would raise the internal price level in the United States.

[2] The average velocity of circulation 1925–9 was 4·07 so that an expansion of the money volume of £90 million a year might have increased the national income by £355 million a year which would have brought it to a maximum of £5·749 million in 1929 instead of £4·178 million.

[3] Erik Dahmèn, 'Svensk Industriell Företagarverksamhet' Industriens Utredningsinstitut, Stockholm, 1950.

average velocity. In Finland and Sweden the difference between the two was comparatively small, but the increases in the money volume were important, being 64·3 (1946–9) and 55·1 per cent. respectively. In the United States, on the other hand, the marginal velocity was nearly three times as high as the average, though there was an increase in the money volume during the period of 17·2 per cent. In the United Kingdom the marginal velocity was nearly 4½ times as high as the average velocity while the increase in the supply of money was only 14·9 per cent.

These few figures show that whether or not the money supply was increased the state of expectations in all four countries was such that an increasing use was being made of the monetary resources available, even though money and credit was not expensive, the years 1946–53 being characterized by cheap money.[1] There were several 'real' reasons for this optimistic attitude:

1. The replenishing of private, commercial, and industrial inventories after the war was the first impulse. This involved large-scale conversions and the investments had enormous multiplier and acceleration effects. It was of supreme importance that this early need to spend was not hampered by insufficient monetary elbow-room. On the one hand the war-time savings could be mobilized, either directly for current expenditure or by allowing a period of non-saving out of current income as assets in hand were larger than 'normal' in relation to income.

2. The initial spending spree after the war became a habit. New inventions further stimulated demand both in the consumption and investment spheres. The spread of income necessary to sustain such an active demand was secured partly by full employment and partly by welfare-state measures; these included the redistribution of income via the tax system, the public welfare systems proper[2] and the subsidizing of construction on a scale that, in many countries, did more than merely relieve groups with low incomes and/or large families.

[1] Changes in discount rates:

		%			%
Finland:	1934	4	Sweden:	Feb. 1945	2½
	July 1947	4½		Dec. 1950	3
	Feb. 1948	7½		Nov. 1953	2¾
United Kingdom:	Oct. 1939	2	United States:	Aug. 1948	1½
	Nov. 1950	2½		Aug. 1950	1¾
	Mar. 1952	4		Jan. 1953	2
	Sept. 1953	3½			

[2] It is, however, debatable whether this modern social policy has changed the redistribution of real income in favour of the working class especially under conditions of full employment. This was pointed out by both Bertil Ohlin and Nicholas Kaldor at the meeting of the Société Royale d'Économie politique de Belgique in Brussels 22–26 Sept. 1955. The subject of the meeting was 'Social Problems in the National Economy'. It can, however, hardly be argued that the working class has lost income if account is taken of the changing proportion of the social classes in the economy.

3. Home and family foundation was high. The number of persons between 20 and 30 years of age was large (thanks to the post-World War I baby boom and high nativity figures throughout the 1920's) and they in their turn produced a baby boom characterized by an unexpectedly high natural fertility (a large proportion of families with 3 and more children). This also led to large-scale house building which traditionally supports economic growth.

All these factors were non-monetary in the strict sense of the word: they all belong in the sphere of 'real' phenomena. However, the expansion in real activity did not find its full counterpart in an increase in the money supply, as is shown by the higher marginal as opposed to average velocities. The problems raised here will be discussed—at least in capsule form—in the final section of this article.

The change in the velocity of circulation between the war and post-war periods is very marked. It was basically due to a change in expectations with the cessation of hostilities and was as such autonomous. The increasing marginal velocities found in Finland and Sweden are due to induced influences from demand working themselves out over prices and the supply of goods. In the United Kingdom and the United States the increase in velocities is also largely due to the comparatively slight increase in the money supply. Other influences—demand both domestic and foreign—were, however, so strong that the moderation in the expansion of the money supply in no way checked the expansion of the national income; in fact, the small expansion in the money supply seems to have induced extraordinary high velocities for, as will be shown below, there is more leeway in modern economies than has ever before been the case.

1950–7 United Kingdom and United States: High Velocities

In order to see whether the high induced velocities of the years 1946–53 are also found in a more detailed investigation a study has been made for the United Kingdom and the United States on the basis of quarterly figures.

For the United Kingdom there are quarterly figures since 1954 for the *gross national product*[1] at factor cost which has been brought to market prices by allowing for taxes and subsidies.[2] The regression equations for the gross national product and the money supply for 1954_{I} to 1956_{IV} are

$$Y = 4{\cdot}400 + 17{\cdot}4M$$

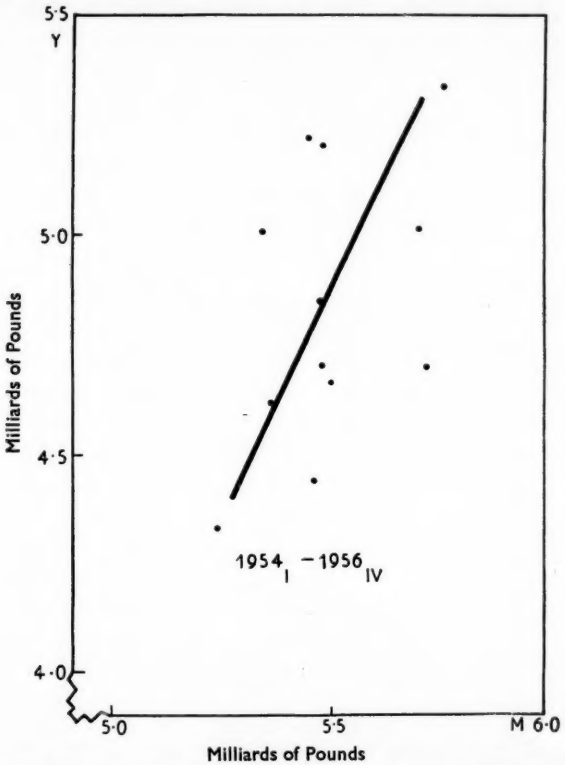
$$(M = 5{\cdot}27 + 4{\cdot}52Y)$$

with a correlation coefficient of 0·998.

[1] The following results are not strictly comparable to those given in previous sections as there, for purposes of international comparisons, the national income has been used, *not* the gross national product.

[2] Central Statistical Office; Digest of Statistic (Table 16), p. 128.

As the money volume was only increased by 9·9 per cent. (and to 1957_I 1·1 per cent.) while the gross national product increased by 12·11 per cent. (and to 1957_I 20·0 per cent.) it is not surprising that the marginal velocity of circulation was as high as 17·44. The average velocity for the twelve quarters was 3·53 having increased from 3·31 in 1954_I to 3·71 in 1956_{IV}; the relative money supply fell during the same period from 30·2 to 27·0.



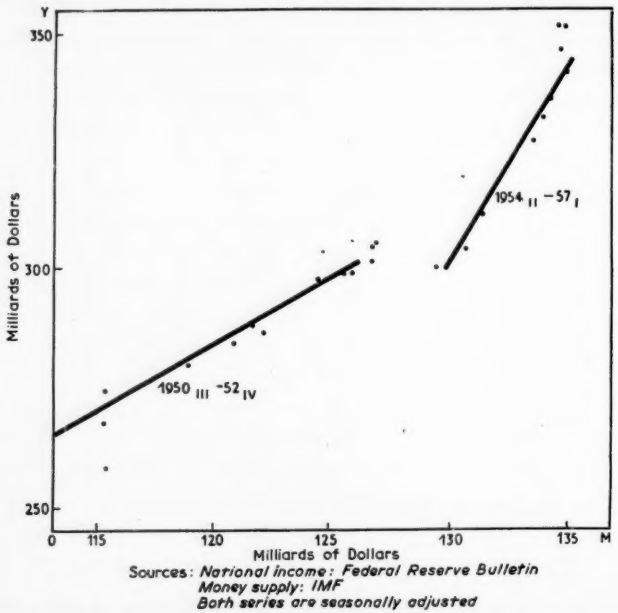
GRAPH 7. United Kingdom: National Income and Money Supply 1954_I–1956_{IV} quarterly.

The relative money supply was at its lowest in the second quarter of 1956 with 26·1 when the average velocity was also at its highest with 3·83.

The very high marginal velocity found for the period 1954_I–1956_{IV}[1] in the United Kingdom shows what Angell called 'marginal optimism'. Though the authorities restricted the growth of the money supply, expectations were so high that the available monetary resources were mobilized in order to maintain and expand the volume of transactions and

[1] The fact that the period ends in the fourth quarter does not influence the general results. The marginal velocity for 1954_I–1957_I was 16·54. For technical reasons this correlation is, however, less satisfactory than the one used.

thus the growth of the gross national product.[1] One of the signs of these increases in velocity is, in the United Kingdom, the proportionately large increase in the supply of notes.[2] The increase in currency in 1954_{I}–1956_{IV} was 12·2 per cent. while the increase in the total money supply was 9·9 per cent. One of the reasons was the limitation of bank deposits while the note issue apparently suffered from no restriction.[3] (The increase in the note circulation, though it applies to the United Kingdom recently, is not



GRAPH 8. United States: National Income and Money Supply 1950–1957 quarterly.

universally found as a symptom of increasing velocities. It depends entirely in what sector, transaction or financial, the increase in velocity is chiefly taking place.)

These increases in velocity took place in spite of the fact that the bank rate was raised from 3 per cent. to $3\frac{1}{2}$ and $4\frac{1}{2}$ per cent. before the quarter showing the highest velocities. The subsequent fall would lead to the conclusion that finally the cost of money was beginning to make itself felt. The fact that the high bank rate did not immediately change the whole

[1] The mobilization of liquid resources has been well documented. See amongst others H. B. Rose, 'Monetary Policy and the Capital Market 1955–1956' in the *Economic Journal*, vol. lxvii (Sept. 1957), pp. 397–414.

[2] T. Wilson, 'The Rate of Interest and Monetary Policy' in *Oxford Economic Papers*, vol. 9, No. 5 (Oct. 1957), pp. 246 ff.

[3] 'Bank Deposits and Currency. Divergent Fluctuations', *Midland Bank Review*, Nov. 1957, pp. 1–3.

structure of rates is part of the explanation of why the monetary policy took so long to begin to be even partly effective.

As shown in Graph 8 the seasonally adjusted series for the United States breaks in 1953 when the recession of that year led to a readjustment of both money supply and national income. Regression equations have been calculated for the two periods separately and give for the United States for the period 1950_{III}–1952_{IV}

$$Y = 266{\cdot}9 + 3{\cdot}27M$$

$$(M = 113{\cdot}5 + 0{\cdot}28Y)$$

with a correlation coefficient of 0·95. For the period 1954_{II}–1957_{I} the regression equation is

$$Y = 300{\cdot}1 + 8{\cdot}29M$$

$$(M = 129{\cdot}8 + 0{\cdot}18Y)$$

with a correlation coefficient of 0·95.

It is thus seen that during the two and a half years 1950_{III}–1952_{IV} the marginal velocity of circulation was 3·27; the average was 2·35 and the divergence between them shows 'marginal optimism'. This was the case in spite of the fact that the money supply during these ten quarters increased by 12·2 per cent. However, the relative money supply decreased in spite of the not inconsiderable increase in the money supply from a high of 44·62 in the third quarter of 1950 to 41·10 in the fourth quarter of 1952. The marginal velocity was thus, as could be expected, also lower in 1950_{III}–1954_{IV} being about half as high as during the years 1946–53, the latter having been 6·24.

In the second period under consideration, 1954_{II}–1957_{I}, the money supply only increased by 4·1 per cent. which amounted to near stability. As was to be expected the marginal velocity increased sharply, namely to 8·29[1] which is the highest marginal velocity on record for the United States. It also diverged sharply from the average for the same period which was thus higher than for 1950_{III}–1952_{IV}, and which itself was increasing continuously from 2·322 to 2·605 over these twelve quarters. Discount rates had been rising through the period to reach a maximum of 3 per cent. on the 24th of August 1956. The relative money supply also fell continuously during this period from a high of 43·06[2] in the second

[1] A regression equation for the eight quarters 1954_{II}–1956_{I} gave a marginal velocity of circulation of 6·37. Thus the marginal velocity increased very considerably in the four quarters 1956_{II}–1957_{I} which is also borne out by the much higher yearly figures for the average velocity of circulation.

[2] The 1953 recession does not seem to have been caused by a decrease in the money supply. The latter remained almost unchanged—a decrease of 1 per cent. is registered between the first two quarters—and it was subsequently expanded. This explains the rise of the relative money supply between 1952_{IV}–1954_{II} as the national income fell during the intervening five quarters.

quarter of 1954 to a low of 38·39 in the first quarter of 1957 or by nearly 11 per cent.

It is thus seen that during the period when the money supply increased the marginal velocity of circulation approached its average, a slight 'marginal optimism' still being in evidence. In the second period, in the United States and in the United Kingdom when the money supply was kept comparatively stable, a very high marginal velocity was induced.

Velocity: why a Variable?

Are there any structural changes in the economy which would have made the payment habits and, therefore, the velocity of circulation of money and credit less stable?

Probably the most important change is that the relative money supply (i.e the money supply as a percentage of national income) given in Table II, in the economies under consideration has become greater. The relative

TABLE II

The Relative Money Supply, 1914–56

	1914	1921	1931	1938	1946	1953	1956
Finland . . .	12·50	10·96	9·59	11·98	20·40*	12·79†	13·29‡
Sweden . . .	25·46	32·73	23·65	27·55	35·52	30·96	(27·64)
United Kingdom .	23·17	30·81	32·52	34·90	54·70	38·72	37·44‡
United States . .	37·21	35·00	39·89	44·13	58·79	40·74	39·01

* 1945. † 1949. ‡ 1955.

money supply is a measure of the relative size of the stock of money. As is seen, the relative money supply in 1956 had decreased from its post-war peak but was in all countries except the United States higher than in 1938. It is also considerably higher than in 1914 in all countries except Finland. The greatest difference is found in the United Kingdom where it is nearly 70 per cent. higher than in 1914.

These increases in the relative money supply mean that there is proportionately more money in the economies in question than there used to be in the days of the gold standard, when increases in discount rates always could be relied on to curb a boom without undue delay. Such a system worked best in London, where the city was the centre of the international banking world. By 1956 the demands made on this banking system were not proportionately so much greater—in spite of sterling area commitments—that an increase in the relative money supply of nearly 70 per cent. can be accounted for. Individuals, firms, and the government have therefore acquired the habit of maintaining a much higher liquidity than would

be justified by the increase in prices. These large reserves of notes and deposits can be mobilized for faster payments than the owner had originally intended,[1] if, for instance, he cannot obtain a credit he had counted on, or if he thinks that prices are due to rise or supplies become scarce. The modern banking system can only control the demands for new credit but not the assets actually owned by its clients[2] and is therefore powerless except through changes in interest rates to moderate increases in the marginal velocity of circulation. This argument applies, though to a lesser degree, to the other three countries being considered, namely Sweden, the United States, and in some slighter degree to Finland.

The second point is that, due to the savings during two world wars and to continuous full employment at comparatively high money wages since the last this increased liquidity is in the hands of individuals and smaller firms with a high propensity to consume, especially when normal credits are withdrawn.

Thirdly, the way credit is used has probably changed. The war-time and post-war credit controls taught borrowers that credit could not always be obtained when it was wanted. They therefore acquired the habit of using credit when it was to be had and especially when credit was cheap. When, therefore, credit is restricted and/or it becomes more expensive, these asset owners can fall back on their own saved assets. By such a mobilization they increase the velocity of circulation and lengthen the time needed for monetary controls to become effective.

The fourth major factor is that even formally balanced budgets, being 'too large' in proportion to the national income, will cause such a redistribution of income in the economy that this in itself can be inflationary. Incomes which, if they were not taxed away, would be saved, are, when passing through the hands of the treasuries, pumped into the income sphere and spent, chiefly for consumption purposes. This naturally increases the velocity of circulation of money while also increasing the pressure of demand.

The fifth major point is the changes that the money and capital markets have been subject to. On the one hand the financial policy of treasuries is today so important a factor that the banking system as such cannot alone control the markets. The treasury is often bound by 'social interest rate policy' which decreases the efficacy of changes in discount rates and hinders these from affecting the whole structure of interest rates and thus weakening their effect on the demand for money. It is possible that other changes in the mechanism of the markets have taken place; these are

[1] How large the resulting changes can be is shown in the Bank for International Settlements *27th Annual Report*, p. 65: 'Currency Circulation and Demand Deposits: Deviations from Trend.'

[2] In war-time and at currency conversions this has not always applied.

being investigated by two Commissions of Inquiry in the United Kingdom and the United States respectively.

There seem therefore to be at least five major structural reasons why velocities of circulation are more variable in the 1950's than before 1914. These are:

1. A relative increase in the liquidity of the economies.
2. A wider spread of the liquid reserves held against current needs.
3. A change in the extent to which credit is used even when private assets are available, the latter being kept in reserve.
4. A redistributive and thus income-spreading policy on the part of the governments.
5. A change in the structure of the money and capital markets; among other effects, this prevents discount rates changes from permeating the whole structure of interest rates necessary for pressure on the demand for money and credit.

This list is not exhaustive and will probably have to be added to when the reports of the Commissions of Inquiry referred to above are available.

Conclusions

The fact that the velocity of circulation of money and credit has become a variable in the medium run has been substantiated by empirical research. It seems probable that the greater relative liquidity of modern economies is one of the main causes especially when linked with the changes that have taken place in its distribution, usage, and in financial and banking practice.

The analysis further suggests, on the one hand, that expectations as to the future development of the economy are a decisive factor, impelling the owners of monetary assets to use them at increasing or decreasing rates. On the other hand, the amount of new money supplied to an economy is, at any rate in boom periods, decisive for the changes in marginal velocity. In periods of depression the availability of money would at least not hinder the impulses to recovery coming from a change in expectations. In periods of 'normality' or 'near' normality, i.e. when the money supply is increased in a constant and sufficient proportion to the national income, smaller fluctuations in velocity may have a variety of causes some of which have been mentioned;[1] in all other periods the relative supply of new money is a factor that cannot be disregarded.

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[1] Seldon, loc. cit., p. 212, did not have to include the relative changes in the supply of new money explicitly in his equation for the demand for money because he was working on the United States where this factor has been relatively stable.

APPENDIX

TABLE A

Correlation Coefficients and Regression Equations. Finland, Sweden, United Kingdom, and United States 1914–53

Country and period	*Correlation coefficient*	*Regression equations*
Finland		
1914–18	0·967	$Y = 0{\cdot}96 + 4{\cdot}48M$
		$M = 0{\cdot}29 + 0{\cdot}21Y$
1919–28	0·916	$Y = 10{\cdot}03 + 22{\cdot}77M$
		$M = 1{\cdot}62 + 0{\cdot}04Y$
1932–8	0·994	$Y = 18{\cdot}49 + 5{\cdot}901M$
		$M = 1{\cdot}661 + 0{\cdot}151Y$
1939–44	0·952	$Y = 31{\cdot}240 + 2{\cdot}96M$
		$M = 7{\cdot}80 + 0{\cdot}31Y$
1945–9	0·989	$Y = 100{\cdot}09 + 10{\cdot}46M$
		$M = 23{\cdot}18 + 0{\cdot}09Y$
Sweden		
1914–18	0·998	$Y = 3{\cdot}750 + 2{\cdot}382M$
		$M = 0{\cdot}872 + 0{\cdot}418Y$
1932–8	0·991	$Y = 6{\cdot}826 + 3{\cdot}295M$
		$M = 1{\cdot}707 + 0{\cdot}298Y$
1939–45	0·992	$Y = 11{\cdot}834 + 2{\cdot}268M$
		$M = 3{\cdot}346 + 0{\cdot}437Y$
1946–53	0·996	$Y = 19{\cdot}982 + 3{\cdot}951M$
		$M = 6{\cdot}847 + 0{\cdot}252Y$
United Kingdom		
1931–8	0·990	$Y = 3{\cdot}632 + 2{\cdot}336M$
		$M = 1{\cdot}210 + 0{\cdot}419Y$
1939–45	0·935	$Y = 5{\cdot}672 + 1{\cdot}270M$
		$M = 1{\cdot}360 + 0{\cdot}688Y$
1946–53	0·906	$Y = 7{\cdot}421 + 7{\cdot}730M$
		$M = 4{\cdot}725 + 0{\cdot}106Y$
United States		
1914–18	0·993	$Y = 31{\cdot}9 + 3{\cdot}729M$
		$M = 11{\cdot}5 + 0{\cdot}264Y$
1921–9	0·974	$Y = 59{\cdot}894 + 4{\cdot}538M$
		$M = 20{\cdot}853 + 0{\cdot}209Y$
1933–8	0·989	$Y = 40{\cdot}848 + 2{\cdot}632M$
		$M = 18{\cdot}842 + 0{\cdot}372Y$
1939–45	0·953	$Y = 81{\cdot}9 + 1{\cdot}952M$
		$M = 31{\cdot}6 + 0{\cdot}465Y$
1941–45	0·929	$Y = 118{\cdot}6 + 1{\cdot}563M$
		$M = 41{\cdot}1 + 0{\cdot}552Y$
1946–53	0·940	$Y = 200{\cdot}3 + 6{\cdot}243M$
		$M = 103{\cdot}8 + 0{\cdot}141Y$

The formula used is: the mean of Y + the rate of change of M; the first calculated term for Y is then substituted for the mean of Y. Thus there are no negative first terms.

TABLE B

FINLAND

National Income, Money Supply, Relative Money Supply, and Velocity of Circulation 1914–49

Year	*National income at current prices*	*Money supply*	*Relative money supply* 3/2 × 100	*Velocity* 2:3
1	2	3	4	5
	(*milliards of marks*)			
1914	1·36	0·170	12·50	8·00
1915	1·63	0·293	17·97	5·56
1916	2·34	0·515	22·01	4·54
1917	3·91	1·067	27·29	3·66
1918	7·87	1·551	19·71	5·07
1919	11·39	1·524	13·38	7·47
1920	14·19	1·847	13·02	7·68
1921	16·63	1·823	10·96	9·12
1922	15·84	1·906	12·03	8·31
1923	14·81	1·798	12·14	8·24
1924	15·14	1·755	11·59	8·63
1925	17·97	1·751	9·74	10·26
1926	19·79	1·877	9·48	10·54
1927	22·06	2·060	9·34	10·71
1928	23·54	2·022	8·59	11·64
1929	22·69	1·865	8·22	12·14
1930	21·06	1·745	8·28	12·07
1931	18·55	1·780	9·59	10·42
1932	18·48	1·545	8·36	11·96
1933	19·64	1·725	8·78	11·39
1934	22·39	2·332	10·41	9·60
1935	23·57	2·489	10·56	9·47
1936	26·17	2·891	11·05	9·05
1937	31·27	3·500	11·19	8·93
1938	32·54	3·9	11·98	8·34
1939	32·76	6·6	20·14	4·96
1940	36·44	9·4	25·79	3·88
1941	46·09	12·8	27·77	3·60
1942	58·02	16·7	28·78	3·47
1943	73·86	17·1	23·15	4·32
1944	79·61	24·1	30·27	3·30
1945	108·30	22·1	20·40	4·90
1946	181·50	30·0	16·53	6·05
1947	254·08	39·9	15·70	6·37
1948	360·95	44·9	12·44	8·04
1949	385·31	49·3	12·79	7·82

Sources: National Income and Money Supply: 1914–25 figures as calculated in Fleetwood, loc. cit., p. 19; 1926 onwards, official figures and loc. cit., p. 101; 1937 onwards, official figures.

TABLE B (*cont.*)

SWEDEN

National Income, Money Supply, Relative Money Supply, and Velocity of Circulation 1914–53

Year	*National income at current prices*	*Money supply*	*Relative money supply* 3/2 × 100	*Velocity* 2:3
1	2	3	4	5
	(*millions of kronor*)			
1914	3·625	0·923	25·462	3·927
1915	4·206	1·089	25·891	3·862
1916	5·299	1·522	28·722	3·482
1917	6·480	2·033	31·373	3·187
1918	8·312	2·867	34·492	2·899
1919	9·631	3·025	31·409	3·184
1920	11·315	2·875	25·409	3·936
1921	7·678	2·513	32·730	3·055
1922	6·716	2·118	31·537	3·171
1923	6·821	1·889	27·694	3·611
1924	7·051	1·774	25·159	3·975
1925	7·178	1·730	24·101	4·149
1926	7·362	1·729	23·485	4·258
1927	7·511	1·704	22·687	4·408
1928	7·709	1·707	22·143	4·516
1929	8·220	1·708	20·778	4·813
1930	8·137	1·795	22·060	4·533
1931	7·387	1·747	23·650	4·228
1932	6·841	1·693	24·748	4·041
1933	6·840	1·774	25·936	3·856
1934	7·784	1·933	24·833	4·027
1935	8·295	2·143	25·835	3·871
1936	9·107	2·374	26·068	3·836
1937	10·274	2·650	25·793	3·877
1938	10·704	2·949	27·550	3·630
1939	11·510	3·482	30·252	3·305
1940	12·000	3·597	29·975	3·336
1941	13·300	3·961	29·782	3·358
1942	15·300	4·849	31·693	3·155
1943	16·880	5·478	32·453	3·081
1944	17·503	6·024	34·417	2·906
1945	18·304	6·540	35·730	2·799
1946	19·658	6·984	35·527	2·815
1947	20·869	7·271	34·841	2·870
1948	23·387	7·672	32·804	3·048
1949	24·061	7·939	32·995	3·031
1950	25·576	8·445	33·019	3·028
1951	31·395	10·072	32·081	3·117
1952	33·304	10·433	31·326	3·192
1953	34·985	10·831	30·959	3·230

Sources: National Income: Erik Lindahl, 'The National Income of Sweden 1861–1930', *Stockholm Economic Studies*, Stockholm, 1937. Statistikal Yearbook and Konjunktur-institutet. *Money Supply*: Sveriges Riksbanks Årsbok, Kommersiella Meddelanden. IMF Bulletin.

TABLE B (*cont.*)

UNITED KINGDOM

National Income, Money Supply, Relative Money Supply, and Velocity of Circulation 1914–53

Year	*National income at current prices*	*Money supply*	*Relative money supply* 3/2 × 100	*Velocity* 2:3
1	2	3	4	5
	(millions of pounds)			
1914	2·266	0·525	23·168	4·316
1915	2·591	0·525	20·262	4·935
1916	3·064	0·525	17·134	5·836
1917	3·631	0·525	14·459	6·916
1918	4·372	0·525	12·008	5·328
1919	4·561	1·511	33·129	3·019
1920	5·664	1·522	26·871	3·721
1921	4·460	1·374	30·807	3·246
1922	3·856	1·318	34·180	2·926
1923	3·844	1·274	33·142	3·017
1924	3·919	1·252	31·947	3·130
1925	3·980	1·221	30·678	3·260
1926	3·914	1·217	31·093	3·216
1927	4·145	1·223	29·505	3·389
1928	4·154	1·241	29·875	3·347
1929	4·178	1·226	29·344	3·408
1930	3·957	1·210	30·579	3·270
1931	3·666	1·192	32·515	3·076
1932	3·568	1·173	32·875	3·042
1933	3·728	1·289	34·576	2·892
1934	3·881	1·269	32·698	3·058
1935	4·109	1·368	33·293	3·004
1936	4·388	1·535	34·982	2·859
1937	4·616	1·611	34·900	2·865
1938	4·671	1·630	34·896	2·866
1939	5·037	1·644	32·638	3·064
1940	5·980	1·925	32·191	3·106
1941	6·941	2·386	34·375	2·909
1942	7·664	2·801	36·547	2·736
1943	8·171	3·265	39·958	2·503
1944	8·366	3·739	44·693	2·237
1945	8·340	4·249	50·947	1·963
1946	8·323	4·553	54·704	1·828
1947	8·837	4·865	55·053	1·816
1948	9·734	4·890	50·236	1·991
1949	10·261	4·986	48·592	2·058
1950	10·648	5·031	47·248	2·116
1951	11·635	5·165	44·392	2·253
1952	12·826	5·117	39·895	2·507
1953	13·516	5·234	38·724	2·582

Sources: National Income: Hardy A. R. Prest, *Economic Journal*, Mar. 1948, pp. 31–62; 1938, Cmd. 8203; 1944–5, Cmd. 7371; 1946–7, Blue Book; 1948, Cmd. 8803. *Money Supply*: currency in circulation plus net demand deposits of clearing banks; up to 1920 end of year; 1921 onwards monthly averages.

TABLE B (*cont.*)

UNITED STATES

National Income, Money Supply, Relative Money Supply, and Velocity of Circulation 1914–53

Year	*National income at current prices*	*Money supply*	*Relative money supply* 3/2 × 100	*Velocity* 2:3
1	2 (*millions of dollars*)	3	4	5
1914	31·213	11·615	37·212	2·687
1915	32·533	11·403	35·051	2·853
1916	38·739	13·849	35·749	2·797
1917	46·376	15·777	34·020	2·939
1918	56·956	18·141	31·851	3·140
1919	64·200	21·217	33·048	3·026
1920	74·200	23·721	31·969	3·128
1921	59·400	20·790	35·000	2·857
1922	60·700	21·391	35·240	2·838
1923	71·600	22·697	31·700	3·155
1924	72·100	23·062	31·986	3·126
1925	76·000	24·949	32·828	3·046
1926	81·600	25·601	31·374	3·187
1927	80·100	25·539	31·884	3·136
1928	81·700	25·881	31·678	3·157
1929	87·355	26·179	29·968	3·337
1930	75·003	25·075	33·432	2·991
1931	58·873	23·483	39·887	2·507
1932	41·690	20·241	48·551	2·060
1933	39·584	19·172	48·434	2·065
1934	48·613	21·353	43·924	2·277
1935	56·789	25·216	44·403	2·252
1936	64·719	29·002	44·812	2·231
1937	73·627	30·687	41·679	2·399
1938	67·375	29·730	44·126	2·266
1939	72·532	33·360	45·993	2·174
1940	81·347	38·661	47·526	2·104
1941	103·834	45·521	43·840	2·281
1942	137·119	52·806	38·511	2·597
1943	169·686	71·853	42·345	2·362
1944	183·838	80·946	44·031	2·271
1945	182·691	94·150	51·535	1·940
1946	180·286	105·992	58·791	1·701
1947	198·688	108·485	54·601	1·831
1948	223·469	108·335	48·479	2·063
1949	216·300	107·103	49·516	2·020
1950	240·600	110·225	45·813	2·183
1951	278·400	114·736	41·213	2·426
1952	291·600	121·228	41·573	2·405
1953	305·000	124·267	40·743	2·454

Sources: National Income: Survey of Current Business; *Money Supply* (end of year): Federal Reserve Bulletin.

FLEXIBLE EXCHANGE RATES AND ARGENTINA, 1885–1900[1]

By A. G. FORD

THE aim of this paper is to provide a new theoretical explanation of the adjustment in the Argentine International Accounts between 1885 and 1890 under a flexible exchange-rate system. This has been the subject of a detailed examination by J. H. Williams,[2] who attempted to verify the neo-classical theory of adjustment under fluctuating exchanges, as propounded by Taussig.[3] Further, from the discussion of the Argentine case, a point of fundamental importance, yet often ignored in recent discussion,[4] for the application of exchange-rate theory, will emerge. It will be seen to be of crucial importance to ask *why* the exchange rate depreciated or appreciated; and secondly what income effects might be associated with the initial factors of disturbance.

Argentina, which had come under the control of a strong federal government in 1880, was at this time a predominantly pastoral economy, exporting wool, fleeces, hides, and horns, plus a small volume of cereals, in exchange for which manufactured products of all kinds, textiles, foodstuffs, drink, tobacco, and fuel were imported. Cereal production, for which the country was very suitable, was limited only by the lack of railways, by the poor roads, and by the scantiness of population, for the expeditions of Roca and Alsina in the late seventies had rendered the fertile pampas safe for occupation and cultivation. Monetary reforms were undertaken in 1881 to remedy the previously chaotic state of the currency and to establish Argentina on the gold standard. Yet the internal banking system was rudimentary, there being no central bank, whilst the foreign-based banks were more concerned with the finance of trade and remittances. As early as 1885 a gold premium had appeared, and convertibility of the paper peso into gold was suspended. Thereafter the value of the paper peso fluctuated in terms of gold, the international currency, until 1900.[5]

[1] I am indebted to Professor A. G. Pool for helpful criticism of an earlier draft of this paper.

[2] *Argentine International Trade under Inconvertible Paper Money, 1880–1900*, Harvard, 1920.

[3] *Quarterly Journal of Economics*, 1917.

[4] e.g. S. Laursen and L. A. Metzler, 'Flexible Exchange Rates and the Theory of Employment', *Review of Economics and Statistics*, 1950; S. S. Alexander, 'Effects of Devaluation on a Trade Balance', *I. M. F. Staff Papers*, 1951–2; F. Machlup, 'Relative Prices and Aggregate Spending in the Analysis of Devaluation', *American Economic Review*, 1955.

[5] During the whole of the period of fluctuating exchanges, Argentine international trade was conducted on a gold basis and world prices were quoted in gold, although the gold peso no longer circulated. Further, throughout this period gold moved in and out of the

Between 1880 and 1890 Argentina received a flow of foreign funds, especially heavy in the years 1885 to 1890, thereafter falling sharply and remaining insignificant until the end of the century. These loans and investments, which were devoted to railways, public utilities, land and harbour improvements, and general governmental purposes, had the immediate effect of increasing the foreign debt-service charges until by 1890 these amounted to 60 per cent. of export proceeds, whilst only gradually was the capacity of the country to produce exportable goods expanded as the investment projects were completed and as new immigrants swelled the labour force. Indeed, the collapse of this flow of funds precipitated crises in Argentina and in Britain, the principal lender, in 1890 (the Baring Crisis).[1] The next ten years saw the recovery and expansion of the Argentine economy, impeded, however, until 1895 by falling world prices of primary produce. Further, the pattern of exports was changing, cereal exports growing in importance relatively to wool and fleeces, and roughly half the cereal output was exported whilst almost all the wool and fleeces were sold abroad. Such is the setting for our study of flexible exchange-rate operation.

For the purposes of analysis what assumptions can be made about the behaviour of import and export prices and about supply conditions? The gold peso prices of exports were determined on the world market to which Argentina was at this time a small supplier. Thus in the short period they might be taken as given, whilst in the long run they should be treated as varying independently of Argentina's actions. Import prices in gold likewise might be taken as given, for they were determined by foreign processors or manufacturers and Argentina was such a small consumer of imported goods that she was faced with perfectly elastic supply schedules. Further, internal gold peso prices of exportable produce and manufactures thereof (e.g. wheat, bread, hides, leather, wool) would be closely deter-

country in response to the fluctuations of the gold peso–sterling exchange rate between the gold points, whilst it was the exchange rate between gold and paper pesos which fluctuated. If an importer wished to acquire foreign currency, he had first to purchase gold at the ruling price with domestic paper currency, received when imported goods were sold, and then buy a foreign bill with the gold thus purchased: this would be supplied at a variable price by the banks or exporting interests, who required paper money for internal transactions. The gold premium, which thus related the internal and external values of the paper currency, was subject to more influences than the balance of payments in the short run—for example, domestic hoarding of gold by persons or banks in the narrow Buenos Aires gold market. Nevertheless, the course of exchange fluctuations can be used to throw light on movements in the Argentine international accounts: a favourable balance would lead to the gold exchange rising to the gold import point and the resultant import of gold to a fall in the gold premium as gold supplies increased, and thus to a rise in the value of paper currency—in other words, the paper peso exchange rate would appreciate. For convenience these intermediate steps will be ignored and a rise (fall) in the gold premium will be used interchangeably with a depreciation (appreciation) of the exchange rate.

[1] For a full treatment of this crisis see A. G. Ford, 'Argentina and the Baring Crisis of 1890', *Oxford Economic Papers*, 1956.

mined by foreign prices. Thus for a considerable proportion of her domestic consumption the price level and relative prices were determined by external forces. Accordingly, assuming given world prices, when the paper peso fluctuated in terms of gold, the terms of trade in the short run would not change as paper prices of exportable produce and imports varied *pari passu* with the changing gold premium. Furthermore, the scope of substitution effects was limited to shifts in relative prices between (*a*) exportables and home-produced non-exportable products, and between (*b*) imports and non-exportables. From the nature of the economy these substitution effects were indeed likely to be weak, for there was little home import-competing industry, whilst the home demand for such exportables as were consumed at home on any large scale (grains) was very inelastic. Indeed this latter implies that with a given output of grains and given world prices the supply schedule of these exports would be very inelastic to changes in paper prices brought about by movements in the gold premium, assuming that the redistribution of real incomes as the gold premium fluctuated had negligible effects on domestic cereal consumption. For grain exports could only be increased within a year in so far as home consumption was cut by rising prices, there being no storage facilities for holding over at this period. Some limited flexibility, however, was possible for wool producers, who could hold over to some extent, if the anticipated paper price seemed unduly low.

It is then appropriate to assume that the quantity of exports supplied from a given output of exportables was insensitive in the short run to changes in paper prices as a result of gold premium changes, and likewise, it may be argued, to changes in world prices (the gold premium remaining constant) and to changes in domestic incomes (the marginal propensity to consume exportables being low). The world demand schedule for Argentine exports on the other hand may be taken as perfectly elastic at ruling world prices. For imports it is assumed that the supply schedules facing Argentina were perfectly elastic and that, whilst domestic substitution effects in response to varying paper prices (due either to gold premium changes or gold price changes) were slight, import purchases were highly sensitive to income changes.

This section is concerned with short-run adjustment to balance of payments disequilibria and exchange-rate changes: it will be assumed that no extension of acreage cultivated or size of herds or flocks is possible within the time period concerned. Thus the longer-run effects of a depreciating exchange, say, to encourage the shift of resources into exportable and import-competing production will be ignored, as will the effects of foreign investment in expanding the potential production of primary products.

It will be assumed, following an initial disturbance, that world prices remain given, as do the flow of foreign funds and the service charges payable,[1] and that the supply schedule of exportables is perfectly inelastic, whilst there is a direct relationship between paper peso income and paper peso expenditure on imports, without necessarily assuming a constant marginal propensity to import.[2] It will be possible then to trace equilibrating tendencies, which, however, will not work themselves out completely in such a time period, following an initial disturbing factor, e.g. a fall in export values. Later these assumptions will be relaxed and account taken of longer-run factors.

Let us suppose a change in the exchange rate as the balance between foreign currency payments and receipts changes. It is of vital importance to ask *why* this occurred. It is insufficient to assume a disequilibrium and then trace the effects of a fluctuating exchange rate on imports, exports, &c., because the disequilibrating factor may very well set in motion an adjustment mechanism through income movements to which the subsequent effects of a variable exchange rate will be secondary. Accordingly we shall ask: (*a*) Why did the exchange rate change? (*b*) What income effects might be associated with the initial disturbing factors?

Various answers can be listed to the first of these questions:

1. Speculation in the narrow gold market of Buenos Aires might have intensified. This factor will be treated as of very short-run importance only, for speculative movements would tend to reverse themselves, if against the current of the underlying trade position. Rather, speculative forces should be seen as reinforcing movements in the gold premium brought about by other factors.

2. Changes in the budgetary position of the national government and in the money supply (e.g. the new issue of paper currency authorized to finance a budget deficit) in the absence of counterbalancing variations in private savings would bring inflationary or deflationary pressures, thus changing import purchases and perhaps the supply of exports and thereby changing foreign currency payments relatively to receipts.

3. Autonomous changes in imports, which arose as a result of a sudden shift in tastes or a sharp change in tariff rates, might likewise cause a fluctuation.

4. Changes in domestically financed investment or expenditure in general might lead to changes in incomes and import purchases. (This is connected with 2 and 3.)

5. Changes in foreign currency receipts, which occurred either because

[1] Equity investment indeed was small in Argentina as compared with fixed interest loans.

[2] This is not allowing for any additional effects as the relative prices of imports and non-exportables varied.

of a change in export proceeds (e.g. because the supply of exportables varied or world prices changed) or because foreign loans varied, would have an immediate effect on the gold premium and the exchange rate.[1]

Indeed we shall assert that the predominant reason for gold premium fluctuations in the whole period was variations in foreign currency receipts: in the years 1892–1900 the principal factor was changes in export values; however, in the earlier period 1884–91 prime importance is assigned to foreign loans as the most volatile constituent of foreign currency receipts, whilst it is noted that fiscal policy, banking credit policy, and the issue of paper money all played a vital part in reinforcing the boom and crash. For the Argentine economy, then, we are assuming that export prices (in gold), the flow of foreign funds, and the output of exportables are the autonomous variables which in the main brought about exchange-rate variations, and are allotting a very dependent or insignificant role to imports, governmental activity, private domestically financed investment, and banking action for most of the time.

Let us consider the second question—what adjustment forces sprang from the disequilibrating factors?—and here items 3 and 5 are relevant. For these bring equilibrating income effects (i.e. they diminish the initial discrepancy between foreign currency receipts and payments). If we suppose a 'gold standard' model, then here a change in foreign currency receipts, or a change in import purchases made from a given money income,[2] brings, other things equal, directly associated changes in incomes and imports, and hence equilibrating changes in foreign currency payments. In a flexible exchange-rate model these income effects are still present, *but* they are masked by variations in paper peso prices and money incomes. Nevertheless, it can be shown that a fall in foreign currency receipts, for example owing to a bad harvest or low primary product prices, will have contractive effects on real domestic expenditure and on the volume of imports in the setting of fluctuating exchange rates.

Income effects have already been mentioned, but more precise definition of these is now needed. For once the gold premium (or exchange rate) changed, different relationships prevailed between home and foreign prices, and between money and real incomes. Certainly the Argentines used paper pesos exclusively for domestic transactions—gold coins were an oddity—and their behaviour thus may be analysed in terms of paper money incomes and prices. Now a fall in the output of exportables which led to a decline in export proceeds, or a fall in foreign loans, would each bring a rise in the gold premium, but might be associated with rising

[1] This is assuming that imports did not change at once to the same extent, as real incomes changed.

[2] This is mentioned here for completeness. It played a minor role in Argentine balance of payments disturbances.

paper money incomes if the rising paper prices induced by the rising gold premium outweighed the decline in output or in loan receipts. Accordingly when talking of 'income' movements, paper price changes must be allowed for in order that the real direction of these movements may be determined. A price index comprising exportable prices, home produced non-exportable prices and import prices, each weighted according to its relative importance in domestic expenditure in the first period,[1] should in theory be used to deflate money incomes.[2] It is easily seen that a fall in output or in foreign loans in period 2 as compared with period 1 would reduce the value of $\frac{\text{Paper money income}}{\text{Paper price index}}$ (i.e. real income) as between the two periods, and hence the real purchasing power of Argentina would fall in aggregate.[3] (Likewise terms of trade movements may be shown to give rise to similar income movements.) Accordingly as the real purchasing power (measured in the above way) rose or fell between two periods, so expansionary or contractionary income movements would occur, setting up multiplier processes, and would affect the volume of imports purchased (and hence their gold peso value, assuming given world prices) and possibly the quantity of goods available for export. 'Income' movements will be used in this sense below.

The above arguments suggest then the following adjustment processes. If the excess of foreign currency payments over receipts which caused the rise in the gold premium as compared with the previous period occurred because of

(i) a fall in export values (on account of a fall in world prices, or a decline in output, or an increase in home consumption of exportables out of a given output and income);

(ii) a fall in the proceeds transferred as a result of borrowing abroad;

(iii) an increase in expenditure on imports or on foreign debt-service payments, expenditure being diverted from home produced non-exportable goods;[4]

then a fall in domestic spending and incomes would also be brought about. This decline in incomes (or in real purchasing power) would reduce the volume and gold peso value of imports, besides tending to reduce home

[1] It was unlikely that the relative proportions would shift at all significantly in the short run.

[2] Deflation by the gold premium would prove unsatisfactory unless non-exportable prices rose equally with the gold premium.

[3] The foreign loans are that portion actually transferred to Argentina to finance domestic spending, and here it would be the incomes derived from the non-exportables component which would decline.

[4] e.g. a tariff change or a change in import prices or in tastes might cause a shift in the expenditure on imports from a given income. Increased foreign debt-service charges on governmental debt would bring increased taxation or decreased governmental expenditure at home.

consumption of exportable products, thus releasing such products for exports. The argument can easily be reworked to show the expansionary income effects of an excess of foreign currency receipts over payments (e.g. if export values or loan proceeds rose) which brought a declining gold premium as compared with the previous period. In this case import purchases would rise, whilst the supply of exports might possibly contract.

It must be pointed out that, if there were no lags in the transmission of income effects and if the marginal propensity to save were zero, the income effect would suffice to alter foreign currency payments relatively to receipts immediately to the requisite extent and eliminate any exchange fluctuation. Lags, however, even if the marginal propensity to save were zero, would produce an initial discrepancy between foreign currency receipts and payments and hence an exchange variation, even though eventually these items were brought into balance by income effects. A marginal propensity to save greater than zero would in both cases cause a continuing discrepancy between payments and receipts, and hence a continuing rise or fall in the gold premium. (It is assumed in this analysis that Argentina was so small relatively to the world that changes in world incomes on account of changes in Argentina would have negligible repercussions on her.)

Now if this mechanism provided only partial adjustment in the balance of payments (i.e. a gap remained between receipts and payments), what other factors can be invoked to help eliminate this gap? Firstly, there might very well be 'induced' effects on domestic investment (e.g. in building, farm improvements, governmental works, railway extensions), if rising incomes brought extra activity in this field and falling incomes caused such schemes to be shelved, and these effects would reinforce the earlier income effects. Secondly, variations in the exchange rate might also help, and these secondary effects will be examined in detail later.

Before this, however, the effects of fresh issues of paper currency by the government or the banking system must be considered, for they too could cause a variation in the gold premium. For simplicity, a stable exchange-rate system will be looked at first in which a single issue of currency is made in a period by the government to pay salaries, say, and is not offset by extra savings elsewhere. It will be assumed that initially foreign currency receipts and payments are equal, and that the output of exportables remains constant as does borrowing abroad. This issue will constitute an injection into the income stream with multiplier effects, but as it has been assumed once and for all the income path will increase sharply at first, then decline until the original level is reached asymptotically. Similarly imports will increase sharply, then decline to their initial value again

whilst some exportables may be drawn away from foreign destinations into home consumption. Foreign exchange reserves will be lost initially but the drain should be staunched once the influence of the disequilibrating injection has been damped down. Further repercussions on the rate of interest and on activity will not be traced: it is sufficient to note that if the injection is unrepeated there is an equilibrating tendency, whilst if there is a sustained issue of currency per period the source of disequilibrium still remains.

What now if the exchange fluctuates, when an unrepeated issue of notes serves to increase money income and expenditure? As in the previous case there would be a sharp rise in incomes and imports initially, thereafter these variables declining gradually towards their original levels. The depreciating exchange rate would bring a rising internal price level and this would tend to speed adjustment by cutting the real purchasing power of the increments in money income associated with the initial issue. Once the influence of the disequilibrating issue has waned and the depreciation of the exchange has been arrested, it seems less likely that the exchange rate would appreciate towards its original value again, but more likely that a fresh balance would prevail with higher paper prices and an increased quantity of money. However, if sustained issues were made per period then a steady depreciation would occur; indeed if the budget deficit remained constant in real terms, then as prices rose, so greater issues of paper currency would be needed to finance it.

What equilibrating effects may be expected to follow an appreciating or depreciating exchange rate? Let us consider first a depreciating rate and abstract from any income effects arising from the disturbing factor so that we may concentrate attention on these alone.

(*a*) Some substitution of home-produced non-exportables for imports and exportables may occur as a result of changes in relative prices. However, the scope for this in Argentina was limited and would be diminished as the paper prices of home goods rose, for their supply was not perfectly elastic.

(*b*) It has often been suggested, that on account of the size of import purchases in relation to total national expenditure, changes in expenditure on imports as a result of a depreciating exchange rate may have sizable income effects, expansionary if the demand elasticity is greater than one, contractionary if less than one—under the assumption of a given money income in terms of domestic currency: likewise changes in home expenditure on exportables (the demand for which in Argentina was highly inelastic, both with respect to price and income) would have similar expansionary or contractionary effects. In Argentina these income effects would predominantly affect spending on non-exportables and on imports,

but were complicated because as the exchange rate declined, so rising paper prices of exportables and non-exportables caused producers' receipts and hence paper money incomes to rise. For these latter forces would work to offset any contractionary tendencies which might otherwise have occurred and hence would prove disequilibrating; indeed very low price elasticities of demand for imports and exportables would be needed to produce increases in paper peso expenditures on these goods in excess of the increase in paper peso incomes. (If, however, foreign debt-service payments, a large proportion of which was contractually fixed in gold or sterling and which might be treated as an import of perfectly inelastic demand, are included in the reckoning, then a further contractionary influence appears.) It seems on balance that the net effect was contractionary, but probably of slight importance in promoting adjustment via the influence of these income changes on import purchases.

The processes described in (*a*) and (*b*) may be reversed for an appreciating exchange rate.

(*c*) In Argentina a depreciating exchange moved the distribution of a given real income in favour of the exporting and landed interests and against wage-earners, both rural and urban, and vice versa for an appreciating exchange. For the paper prices of exportables rose *pari passu* with the gold premium and hence receipts of 'exportable' producers, whereas wages were sluggish in responding in terms of paper pesos. Likewise mortgage charges, the other major element in their costs, were contractually fixed in paper pesos, so that a depreciating exchange enhanced the surplus of their receipts over costs. Thus their share of real income increased, whilst the classes whose incomes tended to be more stable in terms of paper pesos suffered a loss.[1] Accordingly as paper peso prices of imports rose with the rising gold premium this latter group would be forced to reduce their import purchases speedily, whereas the exporting interests would be able to purchase more imports. In the short period lags might appear, the cut in import purchases being immediate, whilst the exporting interests only *gradually* expanded their purchases. On the other hand, a falling gold premium would favour the wage-earning and salaried groups, leading to an immediate increase in imports, whilst the exporting interests who would be unfavourably affected might only gradually curtail their import purchases, for often they were men of substantial resources. Given time the effects of these lags would disappear, although in the short run they might have some influence on import values (e.g. in 1891).

It is difficult to assess the net effects on import purchases of these shifts in income distribution after the disappearance of the time-lag effects. Although the town-dwellers—especially those of Buenos Aires—(mainly

[1] See Table II for the evidence of these changes.

relatively fixed paper-income recipients) had higher average and marginal propensities to consume imported goods than rural farmers,[1] nevertheless, the landed *estanciero* with his town house in Buenos Aires or Paris might well offset this, as his average and marginal propensities to consume imported goods would be as high as or higher than those of the city-dwellers, whilst his income would be far greater. It may be concluded that the net effects would be likely to be slight either way.

In like manner it is possible to discuss the effects of this income redistributive process on the home demand for exportable products, although as stated earlier it was very unlikely that the home consumption of these (and hence the quantities actually available for shipment) was affected at all significantly, either because none or very little was consumed at home (wool and fleeces) or because the purchases of various groups were insensitive to income changes (grains).

A further effect may be noted. If wage-earners saved and if their savings were functionally related to their *real* incomes, then if real wages declined, so would consumption (including imported goods), but not so fast. Would the fall in wage-earners' purchases of exportables, non-exportables, and imports be less than the rise in the exporting interests' purchases of these items and so add destabilizing effects to a situation in which the balance of payments had been in deficit?

Although other influences following a depreciation or appreciation of the exchange rate have been suggested,[2] nevertheless, the above seem the appropriate ones to consider as of any importance in Argentina. Yet as indicated above they are essentially weak forces, indeed in some cases having disequilibrating effects. It can thus be seen why it was of vital importance to ask what caused the exchange fluctuation and what equilibrating effects might be associated with the disturbing factor.

To sum up the *short-run* mechanism of adjustment under flexible exchange rates in Argentina, in the cases which I believe typical (i.e. variations in foreign currency receipts bringing disturbances in the balance of payments) changes in the gold premium are accompanied by changes in incomes (an inverse association)—the same factors bringing each about; consequent upon the changes in the gold premium come changes in income distribution and in paper prices, although import and export prices remain fixed in gold. It is argued that these direct income movements are in the main responsible for the equilibrating changes in imports, which tended to

[1] 'The mass of the people in the interior . . . do not care a straw for conversion or the gold premium. Not one in a hundred of them has ever seen a gold or silver coin, or wants to see one; the high gold premium that means starvation for the toiling congested masses (nearly all foreigners) in this city [*sc.* Buenos Aires] has little effect on the monotonous existence and wants of the people of the interior who consume little or no foreign products.' *The Economist*, 25 July 1891, p. 952.

[2] See the articles cited earlier.

bring balance into the foreign exchange market and to end (temporarily) the exchange-rate fluctuation. A very secondary role is allocated to 'induced' effects on investment, to the substitution effects which changes in relative prices might bring about, and also to the other possible effects noted above. The issue of paper currency by the government to finance a budget deficit is seen to be a temporary disequilibrating factor, the gold premium ceasing to rise in the case of an unrepeated issue, whilst sustained issues bring a steady rise.

In his study Professor J. H. Williams first discussed the factors influencing the gold premium, laying utmost stress on the balance of payments, and showed a close association between his estimates of the surplus or deficit in the balance of payments and movements in the gold premium. His next step was to consider the effects of a varying gold premium on export and import paper prices and volumes, and in theory he expected that a rising gold premium would call forth rising export volumes (the rising paper prices acting as a bounty) and would cut import purchases, the rising paper prices diminishing the purchases of the recipients of fixed paper money incomes. Little mention was made of possible substitution effects. A serious flaw here was that the effects of a rising gold premium to increase the paper money incomes of exporters by more than the rise in the gold premium (their costs were sluggish) and hence to increase their import purchases, were completely ignored. Although he was aware of the depressive effects of bad harvests on the economic life of the country, he omitted any mention of the income process stressed in this paper. Indeed no connexion was deduced between factors disturbing the balance of payments and subsequent movements in exports and imports.

When looking to empirical verification of his theory he found between 1889 and 1900 a close inverse association between the gold premium and import values as predicted, but no direct association between the gold premium and export values and volumes as he had anticipated. Rather the reverse had occurred, rising export volumes and values being associated with a falling gold premium (especially the years 1895–1900). Accordingly he concluded that the theory was pretty well borne out for imports, but invoked the relaxation of the 'other things being equal' assumptions of his theory to account for the nonconformity of exports.

An example will now be given to show why his theory appeared well borne out for the wrong reasons on the import side, and to show that our theory can more satisfactorily explain the actual movements in exports, imports, and the gold premium. Suppose an increase in the output of exportables and in the volume of exports shipped and that world prices of exports and imports remain given. Export values (in gold pesos) increase, whilst because of time-lags in the income-flow process foreign currency

payments remain steady initially. The gold premium therefore falls, but its fall is checked as import purchases gradually expand on account of rising incomes. Rising import purchases thus are found to be associated with falling paper prices of imports (an association which neo-classical price theory had postulated) but *not* for the reasons given by J. H. Williams who, as indicated earlier, omitted a crucial factor. Rather it is the increase in income which in the main expands import purchases, together with the help of substitution effects and the more dubious assistance of the other effects of an appreciating exchange. Movements in the gold premium appear to be the adjusting factor, but *in fact* are not. In this case too it is the rule to find rising export volumes being associated with falling paper prices of exportables on the reasonable assumption that the outward shift in the export supply schedule outweighed, or swamped, any tendencies for export volumes to decline because of lower paper prices or because of rising domestic incomes. Accordingly in the cases[1] where movements in the exchange rate are caused by fluctuations in exports, one would expect to find rising (falling) export volumes and values associated with an appreciating (depreciating) exchange rate, rising (falling) incomes, and increasing (decreasing) import volumes and values. A similar process of reasoning may be applied to the cases of changing world prices of exportables and also changes in the proceeds of foreign loans transferred to finance expenditure in Argentina. Here too it will be found that the resultant adjustments are more fundamentally and satisfactorily explained by income movements.

The above discussion of fluctuating exchange theory was conducted under such short-run assumptions (*after* a disturbance had occurred) as given output, given world prices, no changes in invisibles, or in the capital account. This enabled us to consider the income effects of the disturbance and the price and distributional effects of a changing gold premium. In fact in the Argentine case we are concerned with a period of years over which output, foreign borrowing, and prices all varied, whilst the population was steadily increasing both by natural increase and immigration. Although the above procedure shows the adjustment responding to a disequilibrating factor in the short run, this response may be aided or impeded by later variations in prices, in output, or more generally by fresh disturbances. The economy is moving towards a fresh equilibrium, but before this has been reached new forces have appeared to change its course. Nevertheless, the tendency towards equilibrium remains. In the following discussion our treatment must be modified to allow for these facts; for example, longer-run adjustment to such a disequilibrating factor as a flow of foreign investment which ceases suddenly lies in the growth of capacity

[1] For example between 1892 and 1900.

to produce either exportables or import-competing products, as distinct from the initial short-run reduction of incomes and imports to achieve balance between the demand and supply of foreign currency. Using the above theory and making suitable modifications we shall discuss and explain movements in the main variables, and a test will be made of the theory for the years 1892–1900 when the country was more settled and the *ceteris paribus* clauses had more meaning.

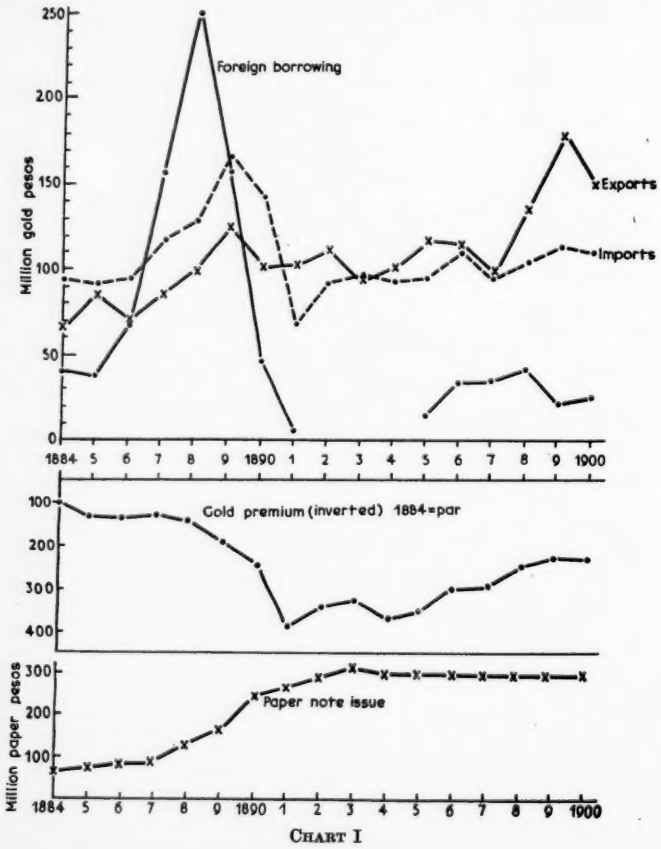

CHART I

From 1885 to 1900 the value of the paper peso fluctuated in terms of gold, the initial break with gold being caused when an adverse balance of payments in 1884 (owing largely to a check to foreign loan proceeds) and domestic speculative pressure proved too great for scanty foreign exchange reserves to withstand. Stabilization in 1900 was engineered by the politically dominant group—landowners and exporting interests—largely

to stop the unfavourable (to them) redistribution of income which an appreciating exchange was bringing. In Table I and Chart I are depicted the movements in the main variables over the period.[1] Noteworthy are the sharp boom of the late 1880's, which the Celman régime recklessly

TABLE I

	(1) *Exports*	(2) *Imports*	(3) *Foreign borrowing*	(4) *Service charges*	(5) *Net immigration*	(6) *Paper note circulation*	(7) *Gold premium*
	(million gold pesos)				*(thousands)*	*(million paper pesos)*	*(1884 = par)*
1884	68	94	40	28	63	62	100
1885	84	92	39	23	94	75	137
1886	70	95	68	27	79	89	139
1887	84	117	154	37	107	94	135
1888	100	128	248	50	139	130	148
1889	123	165	154	60	220	164	191
1890	101	142	45	60	30	245	251
1891	103	67	8	32	− 30	261	387
1892	113	91	n.a.	n.a.	29	282	332
1893	94	96	n.a.	n.a.	36	307	324
1894	102	93	n.a.	n.a.	39	299	357
1895	120	95	17	38	44	298	344
1896	117	112	37	40	89	295	296
1897	101	98	38	44	48	293	291
1898	134	107	46	51	42	292	258
1899	185	117	25	55	49	291	225
1900	155	113	28	59	51	295	231

Notes: 5 gold pesos = £1. Service charges for the year 1891 were reduced by default.

Sources: (1) *Extracto Estadístico de la Republica Argentina correspondiente al año 1915*, Buenos Aires, 1916, p. 3; (2) ibid.; (3) J. H. Williams, op. cit., pp. 45, 101, 152; (4) ibid.; (5) Tornquist, *Fifty Years of Economic Development in the Argentine Republic*, p. 15; (6) *Extracto Estadístico*, p. 297; (7) J. H. Williams, pp. 111,146,154.

encouraged with lax domestic policy; the crash in 1890–1 with the sharp rise in the gold premium and the collapse of foreign loans and of imports; the years of recovery, especially after 1895 when rising output of exportables and rising primary product prices brought a steady fall in the gold premium and a recovery in imports. In Tables II and III movements of wages,

[1] It should be noted that the import values are somewhat unreliable, as they resulted from the valuation of volumes at Argentine official customs values, which were changed infrequently or suddenly with no close relation to variations in world prices of the goods in some cases. If Argentine imports from U.K. are compared with U.K. exports to Argentina, both series display similar fluctuations and are of comparable absolute magnitude. Before 1892 export values are a *little* too high because excessive cereal prices were used. Nevertheless, despite these difficulties the official figures are used and they do give a good indication of what happened.

export prices (paper), and the gold premium illustrate the shifting income distribution as the premium varied.

Between 1885 and 1890 the dominant influence on the economy was the flow of funds from abroad, which were accompanied by heavy immigration. In theory, one would expect the immediate effects of this flow to be reflected in imports: on the one hand some portion of the funds raised

TABLE II

Index Numbers (1886 = 100)

	(1) *Wages*	(2) *Gold premium*	(3) *Export prices (paper)*
1886	100	100	100
1890	125	181	165
1892	138	239	232
1894	146	257	209
1896	161	213	204

Source: J. H. Williams, op. cit., p. 192.
Note: The wages index is the mean of 69 occupations which were mainly urban.

TABLE III

Index Numbers (1883–4 = 100)

	(1) *Rural wages*	(2) *Gold premium*
1883–4	100	100
1891–2	179	332
1896	214	296
1898–9	214	258

Source: J. H. Williams, op. cit., p. 197.

would be used for direct purchases of investment goods abroad (locomotives and rails, for example), whilst that portion which was transferred to Argentina in the form of gold or sterling bills, and used to finance railway construction, farm improvements, general building operations—or more generally any form of public or private expenditure—would raise incomes and induce extra purchases of consumption goods from abroad.[1] Once the flow ceased, imports would fall, whilst the debt-service charges of the loans would remain. Furthermore, as the flow of loans increased the gold premium might be expected to fall, and to rise once they declined.

[1] To the extent that there were some unemployed resources in the economy, a real multiplier process would operate. Immigration would facilitate this.

In fact the effects of these loans and immigration on imports are striking. Loans reached a peak in 1888 (the estimates of loans refer to the date of their raising) whilst total imports and the subdivisions of consumption and investment imports reached a peak in 1889.[1] However, the exchange failed to appreciate significantly between 1885 and 1889 despite the massive influx of funds: indeed it depreciated a little, and this may be explained as follows. The investment boom was exaggerated by domestic credit policy, by the continued issue of notes, and by the land boom, all of which induced fresh import purchases so that the demand for foreign currency exceeded the supply available from export proceeds and the net transfer of funds raised abroad.

Of the funds borrowed abroad between 1885 and 1890 (708 million gold pesos) public loans comprised 35 per cent., railways 32 per cent., land mortgage bonds (cedulas) 24 per cent., each of which might be expected to affect differently goods imported and indeed the long-run growth of production and exports. By 1890 this borrowing had increased the annual foreign debt-service charges to 60 million gold pesos (or 60 per cent. of export proceeds in 1890—a very heavy charge), of which the public sector's share amounted to 28 million gold pesos, payable in gold or sterling at a fixed rate. Of the private share of 32 million gold pesos, land mortgage bonds claimed 13 million, but this sum was liable to vary inversely with the gold premium, since the bulk of the interest payments on these bonds were fixed in paper pesos. Railway borrowings tended to have a large fixed interest payment element (in gold)—of the London issues for Argentine railways in this period ordinary shares amounted to less than 30 per cent., debentures and mortgage stock to almost 60 per cent.[2]

It is important to note that because of the nature of these loans the annual service charges incurred had a hard core contractually fixed and payable in gold or sterling. Once the flow of loans ceased, thereby diminishing foreign currency receipts, some elements in foreign currency payments would fall—purchases of investment imports and 'induced' purchases of consumption goods—but these service charges would remain. If all commitments were to be met, this would imply—in the absence of any increases in export values—a heavier cut in imports than if the investment had been in equity stock or if it had been a unilateral transfer. Thus as the boom progressed service charge payments formed a growing portion of foreign currency payments and remained more intractable, once loans

[1] Consumption imports comprise food, drink, tobacco, textiles, oils, chemicals, paints, dyes, paper, leather, coal, stone, glass, ores, pottery: investment imports cover iron and its manufactures, other metals and their manufactures, building materials, agricultural machinery, railway goods, wood, timber, electrical products. See Table IV.

[2] J. H. Williams's estimates for loans are used in this section, except for London issues which have been derived from *The Economist*, 'New Issues' sections.

diminished and incomes fell, than imports. It is not surprising then to find the public debt service repudiated in 1891, and a mora[t]orium arranged until 1897, for the government would have had to add to the depressive forces to raise the necessary funds—an action politically impossible.

A further feature tending to swell the boom was the steady rise in export proceeds between 1886 and 1889, due largely to rising primary product prices, whilst values fell in 1890 and 1891 by some 20 per cent. from the value in 1889, just at the same time as loan proceeds were declining, and thereby aggravated the depressive forces in these years. Briefly then, from 1885 to 1889 foreign loans and rising export proceeds were bringing rising incomes, import purchases, and debt-service charges, whilst the boom was exaggerated by domestic fiscal and monetary actions. 1890 and 1891 show the decline of foreign currency receipts on two counts with falling incomes and import purchases whilst service charges were unaffected until repudiation. As the fall in receipts was immediate, whilst foreign currency payments only declined gradually, the gold premium rose sharply from an average of 191 (1884 = par or 100) in 1889 to an average of 387 in 1891 (a peak of 437 being reached).

It is clear that the main equilibrating forces to changes in foreign currency proceeds, in this period, were the variations in import purchases which they brought about either directly or by income movements. However, in the period 1890–1 when the gold premium rose so rapidly it seems very likely that the recipients of fixed paper incomes were sharply squeezed and reduced their consumption import purchases immediately, whilst the landed and exporting interests may have expanded theirs only gradually.

It is only after the crisis that the long-run influence of foreign investment to expand output becomes apparent.[1] Although loans reached their peak in 1888, the greatest increment in railway length completed per year occurred in 1891, after which new construction declined rapidly, and it is clear from Table IV that production and export volumes (especially cereals) had responded to the construction of railways, farm improvements, public utility building and immigration, all essential pre-conditions of the expansion of exports through which real incomes might be raised once the increased foreign debt service had been paid.[2]

It is difficult to attribute much importance to the influence of changes in the gold premium on the quantity of exports supplied. As already argued, any effects on the amount supplied from a given output were likely,

[1] The slow maturing of investment projects for which the service charges were immediate was a main cause of the Baring crisis. See A. G. Ford, *Oxford Economic Papers*, 1956.

[2] For example, the wheat harvest in 1894 was 2·5 times that of 1891 (a good year, to judge from export volumes which had reached their greatest figure to that date), whilst the exports of wheat had quadrupled in the same period.

from the nature of the products and the economy, to be slight. Again, although changing paper prices might easily affect production plans (for example, the rising paper prices of 1889–91 probably stimulated some shift of resources), nevertheless, the actual response differed from producers' expectations because of harvest fluctuations, changes in world

TABLE IV

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Loans	*Consumption imports*	*Investment imports*	*Railway length completed*	*Wheat*	*Maize*	*Wool*	*Gold premium*	*Export values*
	(million gold pesos)			*(k-ms.)*	*(thousand tons)*			*(1884 = par)*	*(million gold pesos)*
1884	40	65	29	474	108	114	114	100	68
1885	39	58	33	864	78	198	128	137	84
1886	68	68	27	1,334	38	232	136	139	70
1887	154	86	31	853	238	362	109	135	84
1888	248	84	44	882	179	162	132	148	101
1889	154	100	65	567	23	433	142	191	123
1890	45	86	55	1,294	328	707	118	251	101
1891	8	41	26	3,043	396	66	139	387	103
1892	n.a.	72	19	1,207	470	446	155	332	113
1893	n.a.	73	23	170	1,008	85	123	324	94
1894	n.a.	69	23	178	1,608	55	162	357	102
1895	17	77	17	86	1,010	772	201	344	120
1896	37	84	27	345	532	1,571	188	296	117
1897	38	73	25	294	102	375	206	291	101
1898	46	79	28	696	645	717	221	258	134
1899	25	87	29	962	1,713	1,116	237	225	185
1900	26	84	29	150	1,929	713	101	231	155

Sources: (1) Table I; (2) and (3) author's subdivisions of official values; (4) Tornquist, op. cit., p. 117; (5), (6), and (7) *Extracto Estadistico*, pp. 67–73; (8) Table I; (9) Table I.

prices, the repercussions of variations in export proceeds on the gold premium itself and on sheep-shearing, slaughtering, and hide-curing plans. Certainly from 1894 to 1900 a *falling* trend of the gold premium was accompanied by *rising* export volumes, indicating that in practice the direct relation suggested by neo-classical theory between the gold premium and the volume of exports was not dominant in Argentina.

The chief influences determining the size of cereal output and export volumes were first the growth of the railway system, and secondly climatic and pest conditions. For, despite falling world prices until 1896, the expansion of the railway system and immigrant labour brought more areas into profitable cultivation; once a railhead was established there were comfortable profit margins available for the Argentine farmers whose response to falling world prices was increased sowing. Expansion of wheat production, permitted by railway growth, was in fact realized until 1894; then drought and the locust pest of 1897 affected yields, after which output expanded rapidly; maize (always a 'tricky' crop), however, reached its output peak in 1896 with favourable climatic conditions. In the short run

movements in paper prices had no effect on supply, nor indeed had fluctuations in world prices; whatever was surplus to domestic requirements was shipped abroad irrespective of the price it might command, for there were little or no local facilities for holding over, nor good storage.

Wool and fleece exports, however, were not so much influenced by railway growth—except that sheep farming was shifted more and more into the interior (especially in the twentieth century) before the more profitable cereal farming and beef production (this latter was only of great importance after 1900). On the other hand they were subject to some control

TABLE V

Export and Import Gold Peso Price Index Numbers (1900 = 100)

	(1) *Total exports*	(2) *Pastoral exports*	(3) *Grain exports*	(4) *Total imports*	(5) *Consumption imports*	(6) *Investment imports*
1884	..	101	..	..	..	..
1885	..	103	..	91	99	77
1886	..	87	..	87	95	72
1887	..	106	..	89	97	73
1888	..	118	..	92	99	80
1889	..	137	..	96	102	85
1890	..	102	..	96	102	86
1891	..	88	..	91	97	78
1892	110	102	121	87	94	73
1893	81	71	97	86	94	71
1894	71	63	82	81	88	67
1895	68	62	74	79	86	66
1896	74	70	79	80	85	70
1897	87	74	107	80	85	71
1898	87	75	106	82	86	74
1899	95	108	76	86	88	82
1900	100	100	100	100	100	100

Note: No reliable average values for grain exports are available before 1892.
Source: A. G. Ford, *Inter-American Economic Affairs*, Autumn, 1955.

since the larger and wealthier producers could hold over in the hopes of better paper prices (i.e. waiting for a rise in the gold premium): but there was a definite limit to their power to do this, for despite a falling trend of the gold premium after 1891, the export of wool steadily expanded. Assuming given world prices, in the short run the timing of such exports would have been influenced by a fluctuating gold premium (i.e. up and down), but if it was expected to move steadily downwards there would be no point in holding over. However, of more importance and influence was the world price of wool, or more precisely the anticipated price at Antwerp, where most of the wool was auctioned.

Despite the rising trend of export volumes after 1890 export values showed no sharp increase until 1898, when the previous peak of 1889 was surpassed. For this the behaviour of world prices (an independent variable for Argentina) was responsible,[1] and Table V shows how much falling world prices impeded recovery before 1896. World prices then were of crucial importance in determining the *value* of Argentine exports (and hence her real income), whose volumes in the longer run were determined by the growth of the railway system and population increase—subject, at all times, to climatic conditions. Whilst a fluctuating exchange might have a limited short-run influence on export volumes, in the longer run the reverse relationship of rising volumes and falling gold premium prevailed, thus suggesting that the gold premium was of little importance in influencing production plans and promoting adjustment through changed exports.

After 1891 consumption imports recovered and showed a rising trend until 1900 under the influence of rising incomes generated by the increasing export values (more especially after 1896), which also brought a falling gold premium. Investment imports, which showed no such recovery owing to the collapse of foreign loans, nevertheless exhibited a slightly rising trend, so that total imports gradually increased. However, we have neglected the behaviour of import prices (see Table V)—the discussion has been in 'official' value terms—and perhaps may be excused on two counts. The import price index numbers (gold prices) showed few marked changes from year to year as distinct from the export price series. However, as the import values used are constructed from official customs valuations, which might remain fixed over a period of years, or equally well change abruptly, rather than from an actual price basis, any refined analysis to allow for price changes would be pointless. Accordingly it seemed better to relate crudely import expenditure to incomes, bearing in mind that the elasticities of substitution between imports and home-produced goods were very low.

In the period from 1892 to 1900 when export values provided the principal source of foreign currency receipts (loans revived somewhat after 1895) and the main income generator, the broad relations between the gold premium, export values, and import values are in accord with our theoretical analysis—an increase in export values bringing both a rise in incomes and a fall in the gold premium, both of which would cause import values to increase, the income effect, however, being predominant. This is most noticeable from 1897 to 1899 when rising export values caused the

[1] For example, if the grain and pastoral prices of 1892 had prevailed in 1895, the value of grain exports would have been 63 million gold pesos instead of 38 million, whilst the value of pastoral exports would have been 85 million gold pesos instead of 52 million.

average gold premium to fall from 291 to 225 and import values to rise from 98 to 117 million gold pesos, despite the full resumption of interest payments on foreign-held governmental debt and the increased earnings and remittances of profits in private enterprises, which claimed a greater portion of foreign currency receipts. Noteworthy also in the period is the accord between movements in the gold premium and imports, although, as we have argued at length, this is largely devoid of causal significance, for what on the face of matters might be attributed to a gold premium change is more basically attributable to changes in foreign currency receipts and incomes.

It will be noted that the actual behaviour of exports, the gold premium and imports from year to year is at times at variance with that suggested by theory. To some extent, apart from imperfect statistics, time-lags and seasonal shipments may explain this. Suppose a rise in foreign currency receipts. Initially the gold premium falls as the supply of foreign currency exceeds the demand, the fall being checked as lagged income effects come into play and increase the demand for foreign currency. To some extent this may make the size of the gold premium fall and its effect on the annual average unpredictable, depending on the length of the lag and the type of receipt. Wool and fleeces were shipped late in the calendar year and changes in receipts here might only affect imports in the next year, whereas grain exports left in the early portion of the year and might affect imports in the same year. Loans too are recorded according to date of raising or date of issue when given to stockholders in lieu of interest due. Effects here also would be dubious. Thus short-run testing may be unsatisfactory, if based on direct comparisons of export and import values.

Nevertheless, using railway receipts as an indicator of national income for the period 1892–1900,[1] an attempt has been made to substantiate the following relationships (values are in gold pesos in the series available):

1. Import values closely dependent on incomes.

[1] Some indicator of the fluctuations in national money income is required and there is little choice in Argentina. It perforce must be based on railway returns, which yield total receipts, profits, and profits as a percentage of capital employed (all in gold pesos). Of these, railway receipts have been chosen as giving the best indication of fluctuations in activity in the period, although there is reason to believe that receipts claimed an increasing share of income, for receipts doubled between 1892 and 1900, whereas it is doubtful whether gross income expanded more than 75 per cent. Such a choice is perhaps justified when the main forces affecting incomes affected railway receipts equally in the same time period. Railway receipts were mainly determined by the value of exportable production which the railway system conveyed to towns and ports, the conveying of imports (of less importance, since much was consumed in Buenos Aires), and passenger journeys. When there were no large imports of capital, no currency issues, then fluctuations in export values would largely influence both receipts and incomes in a similar fashion. Furthermore, no large increases in railway length should occur, for these might cause receipts to increase whereas incomes remained steady, nor should there be any possibility of a marked substitution of railway for any other mode of transport. These conditions were fulfilled in the main in these years.

2. Incomes mainly dependent on export values.
3. The gold premium to be inversely associated both with export values and import values.

It should be understood that these relationships would, in theory, only apply when there was no foreign lending and when no currency was being issued. In practice these conditions are fairly well satisfied by the years 1892–1900. Table VI presents the results of this testing, and our earlier theoretical judgements are justified.

TABLE VI

Correlation Coefficients

		Railway receipts (gold pesos)		*Gold premium*	
		(*a*)	(*b*)	(*a*)	(*b*)
Import values	(*a*)	+0·93	..	−0·89	..
(gold pesos)	(*b*)	..	+0·84	..	−0·62
Export values	(*a*)	+0·86	..	−0·82	..
(gold pesos)	(*b*)	..	+0·79	..	−0·58

Notes: (*a*) Actual values. (*b*) Deviations (percentage) from linear trends.
Using the *t*-test with seven degrees of freedom, all correlation coefficients greater than ±0·625 are significant at the 5 per cent. level, all greater than ±0·715 at the 1 per cent. level, and all greater than ±0·90 at the 0·1 per cent. level.

This case study illustrates that income movements effected the transfer of that portion of foreign funds not spent directly on investment goods through increased consumption imports and remittances.[1] Secondly, it shows that foreign investment and immigration of labour ultimately expanded the capacity of the economy to produce exportables, but not before the flow of funds had ceased.

Compared with J. H. Williams and more recent writers on the theory of flexible exchanges,[2] I think the novelty of this approach lies in the two fundamental questions asked: Why did the exchange fluctuate? What adjustments might be brought about by disequilibrating factors? These questions are indeed more appropriate to a primary producing economy, where, in theory, output is often assumed constant, but where I have thought that variable output and its repercussions form a more fruitful approach.

Lastly the findings suggest the dangers of too general an approach to the problems of international trade. To explain fluctuations in the Argentine

[1] In Table VII the behaviour of imports expressed as a percentage of exports clearly shows how the transfer was effected and also the effects of the resumption of public debt service after 1897.

[2] Excepting E. Victor Morgan, *American Economic Review*, 1955.

TABLE VII

	(1) *Imports* (*Expressed as % of exports*)	(2) *Consumption imports* (*Expressed as % of exports*)	(3) *Investment imports* (*Expressed as % of exports*)	(4) *London issues for Argentina* (*million gold pesos*)
	(*Three-year moving averages*)			
1882	109	..	..	..
1883	124	..	..	25
1884	127	..	..	16
1885	128	87	41	32
1886	128	89	39	41
1887	134	94	50	77
1888	134	89	55	79
1889	134	83	51	69
1890	113	68	45	30
1891	95	63	32	11
1892	82	57	25	3
1893	91	67	24	3
1894	91	67	24	2
1895	85	68	17	1
1896	91	69	22	3
1897	91	68	23	8
1898	80	59	21	10
1899	72	53	19	11
1900	68	50	18	13

Sources: (1), (2), and (3) author's computations from official figures; (4) author's computations from *The Economist*, 'New Issues' sections.

balance of payments in these years it was necessary to examine closely the structure of the economy to decide the appropriate assumptions when framing the theoretical analysis—no simple and general fluctuating exchange theory could be applied immediately unqualified. Nevertheless, income changes are seen to be basic in promoting adjustment.

UNIVERSITY OF LEICESTER

THE GROWTH OF A MONEY ECONOMY IN NIGERIA AND GHANA[1]

By E. K. HAWKINS

I

ONE of the chief difficulties in the study of the economics of underdeveloped territories is that generalizations cannot easily be made about the group of countries' that come under this heading. The problems and history of each one make its experience unique in many respects and it is often more enlightening to consider the growth of a particular territory or group of territories, taking into account their peculiar features. It is proposed to examine in this paper some aspects of the economies of the West African countries of Nigeria and Ghana. Many of the features of these two countries' economic life are similar to those of other underdeveloped countries, especially those in Africa with the same characteristics, and the analysis may throw some light on the problems of these other areas.

Both Nigeria and Ghana are young states created artificially half a century ago. Since then a common economic life and government has helped to add some national substance to this creation, aided in the last ten years by the ferment of nationalism and plans for self-government. Trade, however, preceded the flag and the prominent feature of both countries economies has been their dependence upon foreign trade; the exchange of primary products for a wide range of imports began long before there was any political penetration by European powers and continues in very much the same form in the present time of self-government[2] and independence.

It has been customary to discuss the economic problems of this type of economy in terms of two sectors, an export sector and a 'subsistence' sector. It has not always been clear what has been meant by the second concept. A corollary of these discussions has often been the assertion that the export sector is the source of the major part of the gross domestic product and that the subsistence sector is of small size and of little importance, even in principle. Such discussions were encouraged, no doubt, by the fact that government activity, financial institutions, banking, currency, and taxation in both Ghana and Nigeria concentrated on

[1] I am indebted to Sir Donald MacDougall, Mr. H. Myint, Mr. A. Hazlewood, Miss A. Martin, Mr. J. Black, and Mr. L. Samuels for commenting on earlier drafts of this paper.

[2] Accounts of the economies of both countries and of the organization of trade are given by: F. J. Pedler, *An Economic Geography of West Africa* (London), 1955; P. T. Bauer, *West African Trade* (Cambridge), 1945. Historical developments are dealt with by K. Hancock, *Survey of British Commonwealth Affairs*, 11: 'Problems of Economic Policy, 1918–1939', part 2 (Oxford), 1942.

the foreign trade sector of the economy. It has recently been argued that this two-sector approach gives a misleading picture and that a third sector ought to be added to the description. This is the internal exchange economy, dealing in the production and exchange of local goods and services that do not enter into foreign trade. To some extent this third sector has often been implicit in discussions of the subsistence sector, but the lack of information on the extent of either part of the economy has tended to blur the distinction between them. It seems likely, however, that in post-war West Africa, the relative size of the subsistence sector is small, but that it is mingled inextricably with an internal exchange economy. Even in principle it is difficult to separate them out and it is clear that in practice producers and consumers make decisions as to the extent to which they will operate in the exchange sector or in the subsistence sector.[1]

One of the difficulties has been that virtually no reliable economic information was available against which contemporary views of the operation of these economies could be tested. A variety of economic statistics have been collected in Nigeria and Ghana only since the war and do not yet cover all the items available for the United Kingdom. In addition, it is only since 1946 that any specific economic research projects have been carried out.[2] From the findings of these projects it is clear that the size and extent of the internal exchange economy, particularly in Nigeria, is very much larger than was previously suspected. In Ghana, whilst it is still large, it is probably relatively less important than in Nigeria.

In one sense this was a rediscovery of the importance of internal trade in these territories. The pioneer European explorers of West Africa were all impressed by the size of the markets and the extent of their influence, although they have been curiously neglected in the twentieth century.[3] Since the war, economic and political developments have favoured internal trade and the external prosperity obtained through higher prices for

[1] In the literature the word 'subsistence' has come to mean all that output which does not enter into exchange in a market economy. This is the usage of the United Nations report on the *Enlargement of the Exchange Economy in Tropical Africa* (New York), 1954. This report sought to establish statistically the size of the exchange sectors in various countries. Present statistics are inadequate in coverage and in quality and the best figures available are usually those for export products. It is often tempting to call that part of the economy for which no statistics are collected the 'subsistence' sector and this is one of the procedures that has led to the underestimation of the extent of the internal exchange sector. The U.N. report is aware of this danger, but its comparisons between countries are affected by the varying quality of the statistics available.

[2] See especially: A. R. Prest and I. G. Stewart, *The National Income of Nigeria, 1950–51* (London), H.M.S.O., 1953; A. R. Prest, *The Investigation of National Incomes in British Tropical Dependencies* (London) 1957.

[3] Of particular interest is the description given by Captain Hugh Clapperton of the market at Kano as it was in 1822. More recently Professor W. M. Macmillan has drawn attention to this internal trade; *Africa Emergent* (Harmondsworth), 1949, p. 53; *Europe and West Africa* (London), 1940.

export products has stimulated it as well. As most of these exports are produced by African farmers, the secondary effects upon internal trade and investment can be quite large.

What one would wish to know, however, is whether there has been a growth of the internal exchange sector relative to the export sector. It has almost certainly grown relatively to the subsistence sector, as the improvements in communications and transport have enabled the market economy to spread. If it has also grown relatively to the export sector then it could be concluded that the prosperous years since 1946 have begun to change the structure of the economy. Hitherto it is likely that exports have led the way in economic growth; if the internal economy could grow at a faster rate than the export sector, then the economy would have begun to swing away from its dependence upon foreign trade.

Such a development would provide valuable evidence as to the extent to which the growth of internal economic activity can be expected to take place in cases where the initial impulse has come from the export sector. This is one of the recurring problems in the theory of economic development, especially when considering tropical colonial territories, whose emergence as states has been bound up with foreign trade. Since the data reviewed below will only permit of indirect deductions along these lines, it is necessary to add a warning that they cannot be conclusive. An increasing use of money, for example, need not necessarily indicate the growth of internal economic development; it may be due simply to a change of habits. This is unlikely to be true of Nigeria and Ghana, however, where well-developed societies are selective in their adoption or rejection of Western habits and institutions.

It has already been mentioned that West African statistics are incomplete and available for many subjects only since the war. It is certainly not possible to make the necessary statistical comparisons between the pre-war situation in Nigeria and Ghana and the present situation, because there are no figures for those goods and services that enter only into internal trade. It is possible, however, that some clue as to the growth of the internal sector of the economy could be obtained from a study of monetary statistics. These are not plentiful and some are missing before 1939, but there are sufficient in the post-war period to permit some tentative conclusions to be drawn. In any event, the operation of colonial monetary systems has been the subject of controversy and an examination of such systems could be valuable in its own right.

The monetary system of Nigeria and Ghana is based on the colonial sterling exchange standard and is managed by the West African Currency Board. Since becoming independent Ghana has announced its intention of creating its own currency, but it will also be based upon the sterling

exchange standard and will operate in the same manner as the present West African Currency Board. A great deal has been written about this kind of currency system, of which that in West Africa was the first.[1] It is, therefore, not necessary to go over a familiar discussion once again. The principle of the system is that West African sterling is only issued against the exchange of British sterling and such issues, and the counterpart redemptions, take place on an automatic basis. The currency in circulation is always backed, in consequence, by British sterling assets to the value of at least 100 per cent. and changes in the territories' circulation are a function of the country's balance of payments.

This system is an admirable one for a country which desires to maintain the external status of its currency as a first consideration; the price that is paid is that the internal circulation can only be increased by giving up imports of goods and services. The medium of exchange must be imported and paid for like other capital goods.

The usual sequence of events in Nigeria and Ghana has been that the currency in circulation has varied seasonally with the export crop year. At the beginning of the harvest season for produce the Currency Board issues currency (through its agents—one of the expatriate banks) to the firms buying produce either on their own account, or as buying agents for the state Marketing Boards.[2]

This currency is paid over to farmers and middlemen, who spend part on imported goods, part on local goods and services, and hold the rest as savings. That part spent on imports will eventually be returned to the banks and at the end of the season much of the currency issued at the beginning of the year has got back to the banks in this way. They return the surplus cash to the Currency Board agents, receiving British sterling in exchange, or, alternatively, hold the cash as idle funds until the next crop season. In either case the money has now gone out of circulation again. The same process could have been initiated by government or private capital expenditure, but in each case the increase in currency must be financed by some person or body from external funds.

It follows that the use of money in an internal exchange economy could come about only through one or more of the following methods: (*a*) a shift away from expenditure on imported goods and services in favour of local output, (*b*) a rise in the velocity of circulation, so that the currency is used

[1] The system was modelled on the rupee exchange standard adopted in India; J. M. Keynes, *Indian Currency and Finance* (London), 1913. On the colonial sterling exchange standard see especially: W. T. Newlyn and D. Rowan, *Money and Banking in British Colonial Africa* (Oxford), 1954; A. Hazlewood, 'The Economics of Colonial Monetary Arrangements', *Social and Economic Studies*, Dec. 1954; A. Hazlewood, 'Sterling Balances and the Colonial Currency System', *Economic Journal*, Dec. 1952; I. Greaves, *Colonial Monetary Conditions* (London), H.M.S.O., 1953.

[2] P. T. Bauer, op. cit., chaps. 20–24.

more intensively during its brief issued life, or (*c*) an increased use of bank money. Growth in the internal exchange economy would weaken the link between exports and the currency in circulation, for it would divert part of the currency issued each year for the purchase of export produce to other uses not connected with the foreign trade sector. If it also led to the use of bank money, currency would fall as a proportion of the total money supply.

Until recent years the only banks in Nigeria and Ghana have been affiliates of the United Kingdom banking system operating exchange banking of a passive kind.[1] Their business has been the finance of government and the firms in the export and import trade. Since they have not followed an active lending policy they have contributed to the total money supply in exactly the same way as the Currency Board. They provide the necessary cash for working capital but have been loth to expand credit on the security of local assets.

There is one important exception to this generalization and that concerns the growth of indigenous banks in Nigeria.[2] This phenomenon is closely related to the growth of the internal economy because these banks came into existence as a result of dissatisfaction with the way in which the foreign-owned banks had failed to serve the internal sector of the economy. Naturally, these indigenous banks have pursued an expansionist policy in their lending very different from that of the foreign-owned banks described above.[3]

II

Before proceeding to examine the behaviour of the money supply in more recent years it is worth approaching the subject by a more circumspect historical route. Only the bare outline of the subject can be given here, since economic history research has not yet given a complete picture of the role of money in nineteenth-century African development, or an adequate description of the manner in which the use of an issued currency became established.[4]

A simplified version of West African economic history would perhaps argue that early economic relationships were between Africans and European traders who carried out transactions by means of barter. At a

[1] Cf. Newlyn and Rowan, chap. 8.

[2] None have appeared so far in Ghana, but the Bank of the Gold Coast began to operate in 1953 as a commercial bank established by the government. As the Bank of Ghana it has become the Central Bank, but it has 'hived off' a commercial department.

[3] Cf. Newlyn and Rowan, chap. 5.

[4] I am indebted to Miss C. Gertzel for information concerning trading practices in the Niger Coast Protectorate and Lagos in the nineteenth century, although the writer is solely responsible for the interpretation placed upon it. Important sources on this topic are: K. O. Dike, *Trade and Politics in the Niger Delta 1830–1885* (Oxford), 1956; Newlyn and Rowan, op. cit.

later stage the arrival of colonial government brought with it the blessing of an issued money that replaced the 'inconvenience' of barter. The actual pattern of development was, in fact, a good deal more complicated than this; a satisfactory explanation has to take into account the fact that local currencies were already in use in West Africa before the arrival of British colonial rule.

There seem to have been three stages in the growth of foreign trade between European traders and West African peoples; in the first stage trade was an exchange between the export product offered by the African and, usually, one type of European product. The acceptable product varied from one part of the coast to another; gin was favoured in one area, whereas other peoples would take nothing except guns. At a later stage the trader found that he could offer a composite 'product', consisting of a mixture of European goods. In the third stage, for reasons outside the traders' control, foreign trade came to be conducted on the basis of an imported European currency. It is tempting to describe the first two stages as only different types of barter trade. This would be strictly correct as far as the European trader was concerned, but it is doubtful whether the African always saw it in this light. Had the local economy been entirely without the use of money of any kind this might be an accurate description. Historically, however, most West African peoples used a currency of some kind. In foreign trade the goods found most acceptable were often those with the status of money in the internal economy; hence the experiences of the European traders who found that some items were more acceptable in some areas than in others. Such items included bottles of gin, metal rods and bars, manillas, and cowries.[1] Like certain more developed trading nations, these African peoples were only prepared to trade in a medium acceptable to themselves.[2]

If the above views are correct, the changeover to foreign trade on a cash basis meant that the local currencies were supplanted and replaced by the

[1] Manillas are small metal objects roughly of the shape of a horse-shoe. They were formerly used extensively as a currency in southern Nigeria and had no other functions; see United Africa Co., *Statistical and Economic Review*. No. 3, 1949. Cowries are small shells formerly imported into West Africa for use as currency.

[2] Once again the early explorers give many examples of the types of money in use in West Africa in the nineteenth century. Clapperton, when writing of Kano in 1822, says that 'I may here notice the great convenience of the cowrie, which no forgery can imitate; and which, by the dexterity of the natives in reckoning the largest sums, forms a ready medium of exchange in all transactions. . . .' *Journal of an Excursion from Kuka to Sokoto* (London), 1826. Major Dixon Denham, who was with Clapperton on the same expedition, describes a small state near Bornu which used a metal currency. The ruler of this state even practised a monetary policy: 'The money market, however, of Loggun, has its fluctuations; the value of this "circulating medium" is settled by proclamation, at the commencement of the weekly market every Wednesday; and speculations are made, by the bulls and the bears, according to their belief of its rise or fall.' *Narrative of Travels and Discoveries in Northern and Central Africa, 1822, 1823, and 1824* (London), 1826.

imported currency acceptable to the European traders and colonial governments. It is, perhaps, not surprising that this was a long process and one that was only completed by the force of law. The import of 'primitive'[1] currencies into Nigeria was forbidden in 1902, yet such was their hold that manillas, the most important of them, appreciated in value and remained in use in Nigeria until compulsorily redeemed by the government in 1949.[2]

The exact reasons for the changeover to a cash trade are not yet very clear. The historical evidence for Nigeria suggests that the beginnings came in the late 1880's and that barter trade had virtually ended by 1912 when the West African Currency Board was set up. The European currency used for this cash trade and for general use in the export sector was British gold and silver coinage. Indeed, it seems that the main impetus behind the formation of the West African Currency Board was the dislike of the British Treasury of this large drain of British currency to West Africa.[3]

The trading firms themselves had no incentive to adopt a cash trade in place of barter. To trade in cash they had to import British currency, whereas their barter trade involved staple lines that were often cheaply manufactured for the West African market. Included in these staples were some primitive currencies, such as rods, bars, and manillas. These various metal currencies were manufactured in Birmingham, amongst other places, and the seigniorage on the handling of these items was profitable for the firms; both they and the Birmingham suppliers were loth to see their use prohibited or replaced.

Another reason for the reluctance of the firms to change over to a cash trade was the fact that such a changeover involved an increase in their requirements of working capital. To trade by barter involved financing stocks of imported trade goods and stocks of export produce. A cash trade required that a stock of currency be kept in addition.[4] The trading firms were often chronically short of working capital[5] and did not favour any

[1] The word 'primitive' is used here only as an antonym for an issued currency. Some of the 'primitive' currencies were quite sophisticated, such as the ubiquitous Maria Theresa dollar.

[2] *U.A.C. Statistical and Economic Review*, op. cit., Nos. 3 and 4, 1949.

[3] Newlyn and Rowan, op. cit., pp. 33–34.

[4] In principle, of course, the changeover from barter to a cash trade should involve a reduction in the requirements of working capital in relation to turnover. This would be so if such a change was accompanied by more specialization between the firms. In West Africa this does not seem to have happened, for, with one or two exceptions, the trading firms continued to handle both exports and imports. The need to purchase export produce for cash meant, therefore, an increase in their requirements for working capital. This assumes that the average period of turnover of capital is the same after the change to a cash trade as it was when barter was the rule. This is not an unreasonable assumption in West African conditions.

[5] Based on evidence collected by Miss C. Gertzel from unpublished sources.

change that increased their need of it. In these circumstances it is necessary to explain the manner in which the use of a European type of money—initially British silver coinage—ever got established at all. The agent responsible for the initial injection into the economy was the colonial government in its first attempts at regular administration. Since governments need revenue for their activities they raised it by imposing custom duties.[1] Half of these dues had to be paid in cash and the other half could be paid in trade bills. At one stroke, therefore, this measure both forced the firms to hold stocks of currency and encouraged the beginnings of a local circulation when part of this revenue was spent locally by the authorities. The second stage came when an army and a police force were raised locally and paid in cash. There followed the beginnings of railway construction and the collection of taxes in cash. All these innovations were the agents by which the European type of currency percolated through the economy in the last decade of the nineteenth century.

The traders put up some resistance to these developments; in Lagos, in 1887 prices were being quoted for export produce in cash and in real terms for barter. The latter rate was more favourable than the cash price, not only because of the reasons given above but also because the trader could hope to gain from the two-way trade in the case of barter; if he bought produce for cash, the seller was free to spend that cash with his competitors. Generalizations are dangerous about such practices, however, because of the unsettled state of the historical evidence.

After 1912 both Nigeria and the Gold Coast had a locally issued currency provided by the West African Currency Board. Like the banking system, it served the export sector admirably but it does not seem to have been such an unqualified success in the internal economy. It took several decades before the new currency became the generally accepted medium of exchange, if the process is complete at the present time. There are various indications of the slow acceptance of the new currency. There was often a discount on the face value of notes, the note circulation was only a small part of the total circulation and the primitive currencies (especially cowries and manillas) continued to be used and appreciated in value.

For some years after its introduction in 1913 the new currency was largely composed of coins. Great difficulty was experienced in promoting a note circulation and notes were often at a discount over their face value in internal exchange.[2] One of the reasons for the distrust of notes was the inability of the Currency Board to guarantee convertibility of notes into coins on demand. Table I shows the percentage importance of notes in the currency circulation at various dates. It will be seen that the experience

[1] Introduced in the Niger Coast Protectorate in 1891 and in Lagos in 1887.
[2] Cf. J. Mars, op. cit., p. 182.

TABLE I

The Percentage of the total Estimated Currency Circulation made up by Notes at Various Dates. Nigeria and Ghana

Year	*Nigeria*	*Ghana*
1926	15	26
1936	11	31
1946	18	38
1956	52	72

Sources: Nigeria: 1926 and 1936, based on estimates made by J. Mars, in 'The Monetary and Banking System and Loan Market of Nigeria', table xxii, p. 190. *Mining, Commerce and Finance in Nigeria* (London), 1948. Edited by Miss M. Perham. 1946 and 1956, *Digest of Statistics*, Lagos. Ghana: 1926 and 1936, Annual Blue Books. 1946 and 1956, *Digest of Statistics*, Accra.

Currency circulation as at 31 Mar., except for Ghana, 1936, which refers to 31 Dec., and Nigeria, 1926 and 1936, which refer to 30 June.

of Ghana has been different from that of Nigeria, where notes have always been less important; the percentage in 1936 was higher in Ghana than it was in Nigeria ten years later. Since 1946 the position has changed in both countries. Although the process is not complete everywhere notes are now generally acceptable at their face value; in Nigeria in 1946 they made up 18 per cent. of the circulation but had risen to 52 per cent. in 1956. In Ghana the increase was from 38 per cent. to 72 per cent.

Despite the lack of quantitative information on economic conditions between the two world wars, the impression is that little growth took place in either economy, except for some parts of the export sectors. As primary producers the terms of trade were not favourable and real incomes were probably low. Price levels were also low, more especially those for goods and services traded internally. The length of time that it took the issued currency to become established was probably connected with these low levels of prices and incomes. The average price level was so low that the *units* in which the currency was issued were too large to be convenient. If average transactions take place at 1/10th of a penny, florins are inconveniently large coins, and notes impossibly large. Hence the persistence of primitive currencies which provided a more suitable small unit of money.

There was a close relationship between domestic exports and the currency circulation in the pre-war period in both Nigeria and Ghana. For Nigeria, for the years 1913–39 the correlation coefficient between these two series is 0·88 and the regression coefficient 0·40.[1] For Ghana the

[1] The sources of the series used in these calculations are as follows: *Nigeria*. Estimated currency circulation: series constructed by J. Mars. Table xxii, in *Mining, Commerce and Finance* (London), 1948; edited by Miss M. Perham. Domestic exports: Trade Reports. *Ghana*. Currency circulation from estimates given in the annual *Blue Books*. Domestic exports from Trade Reports and (after 1935) *Statistics of External Trade 1935–1953* (Accra), 1956.

correlation coefficient is lower at 0·65; the calculation only covers the years 1925–39, since currency circulation estimates are not available before 1925. The regression coefficient, however, is 0·44, or practically the same as for Nigeria, implying that, on the average, every £100 increase in exports was accompanied by an increase in currency in circulation of only £40.

III

By contrast with the pre-war period much more information is available after 1946 concerning the movements and composition of the money supply in both Nigeria and Ghana. The principal series are shown on Fig. 1 (using a logarithmic scale). The most important change is that

TABLE II

Bank (demand) Deposits and Loans and Advances as a Percentage of the Total Money Supply, Nigeria and Ghana, 1947–56

	Nigeria		*Ghana*	
Year	*Deposits*	*Loans and advances*	*Deposits*	*Loans and advances*
1947	33	n.a.	38	5
1948	32	5	35	5
1949	30	5	23	7
1950	28	7	27	9
1951	31	7	25	7
1952	34	9	22	9
1953	35	10	29	6
1954	38	12	34	7
1955	46	16	36	9
1956	37	21	*34	*8

Sources: Digest of Statistics, Lagos and Accra. See also the notes on 'Sources' for Fig. 1.

* Based on figures for the first nine months of the year.

it is possible to split up the total estimated currency circulation into bank holdings and currency in the hands of the public. It is the latter figure that is of interest, since bank holdings represent currency that is out of circulation. The second important change is that some banking statistics are now available, including figures for deposits and loans and advances. It is thus possible to construct a series for the total money supply, by adding demand deposits at the banks to estimated currency in the hands of the public.[1]

It will be seen from Fig. 1 that there has been a rapid growth of

[1] Mr. Mars produced some estimates of total deposit liabilities for banks in Nigeria for pre-war years. They have not been used above, since the author states that they 'may contain errors up to 33 per cent in either direction'. Op. cit., p. 185.

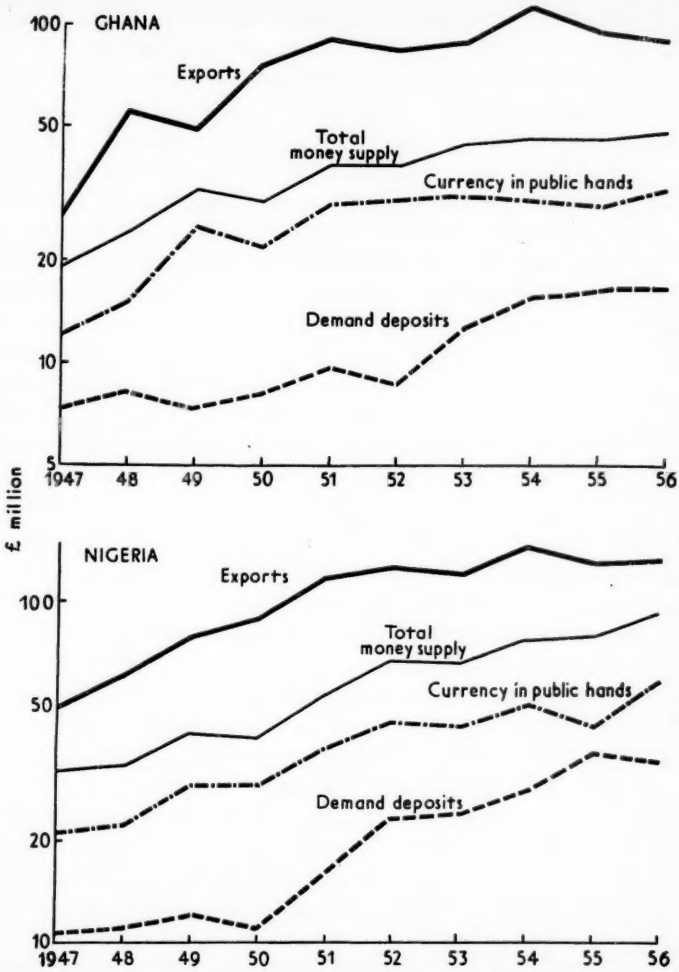

FIG. 1. Changes in Domestic Exports and the Money Supply, Nigeria and Ghana, 1947–56.

Source: Digest of Statistics: Lagos and Accra. All figures, except Domestic Exports, as at the 31st March each year. The 'Total Money Supply' equals the estimated currency in the hands of the public, plus demand deposits of the banks. The series for Demand Deposits is affected by the changes of coverage at various dates, due to the inclusion of banks newly operating in the territories.

demand deposits in both countries; in Nigeria it dates from 1950 and in Ghana from 1952. The result is that their relative importance in the total money supply has increased, although by no means in a consistent manner. Table II shows that the percentage first fell in both countries, until 1950

in Nigeria and until 1952 in Ghana. The subsequent increase raised the Nigerian figure to 46 per cent. in 1955, although there was a big fall in 1956. The percentage for Ghana has never yet surpassed the 38 per cent. achieved in 1947, which was undoubtedly a relic of the war years. Just as demand deposits have become a more important element in the money supply in Nigeria than in Ghana, so there is also a difference in the movement of loans and advances over these years. In Nigeria they have continually increased in importance as an element in the money supply, from 5 per cent. in 1948 to over 20 per cent. in 1956. In Ghana they have never been greater than 9 per cent. of the total money supply and this percentage has changed little since 1950.[1]

The movements of the graph show that, by 1953, demand deposits were sufficiently important in both countries to affect the movements of the total money supply. Prior to that year the latter moved in accordance with the changes in public currency holdings. After 1952 this series is virtually stationary in both countries (except for the rise in Nigeria in 1956), whereas the increase in deposits continued to increase the total money supply.

This slow but definite increase in the importance of bank deposits could indicate the spread of the use of bank money to the internal exchange sector. In Nigeria it has been associated with an important growth of bank advances that is almost certainly the result of the creation of new banks to serve the internal economy. These changes are also connected with internal political developments, particularly in Nigeria, which have been an important source of encouragement to the internal economy. The creation of new forms of local and regional government, marketing boards and other public corporations could alone account for a considerable growth of bank deposits apart from the stimulating effect these innovations have had upon internal demand. Generally speaking, however, for the bulk of the population the money supply remains primarily one of notes and coins.

It has already been mentioned above that the internal circulation can only increase by the amount of currency that does not return to the banks each year. In addition it was also pointed out that there could also be an increase in the velocity of circulation, which would be equivalent to an extra amount of 'localized' circulation. There is, of course, no way of determining changes in the velocity of circulation in West African conditions. If the internal exchange sector grew relatively to the export sector, then the proportion of the total currency issued each year that did

[1] The differing experiences of the two countries are connected with the development of locally owned banks in Nigeria with much more expansive lending policies than the foreign-owned banks.

not return to the currency board to be redeemed would increase over time. This is only another way of saying that there would be a rise in the rate of increase of the currency circulation, since the amount by which the circulation increases each year is equal to the balance of issues over redemptions.

Between 1925 and 1939 the average percentage increase in the currency circulation of Ghana was about 1 per cent. per year. For Nigeria, over the same period, there was actually a net fall, which averaged 1·4 per cent. per annum. The shorter series for the post-war years show a very different picture. Once again Ghana shows the greater percentage annual increase, the average being 27 per cent. for the years 1947 to 1956. For Nigeria (from 1946 to 1956) the comparable figure was 22 per cent.[1] These high rates of increase for the post-war years indicate a much faster growth of the internal circulation than was the case before 1939.

It was shown above in section II that there was a close relationship between the movement of domestic exports and the total estimated currency circulation for both Nigeria and Ghana in the pre-war period. This relationship continues to hold in the years 1946 to 1956, and the association is much closer than for the earlier period. For Nigeria the correlation coefficient between domestic exports and the estimated currency circulation in the hands of the public is 0·99 and for Ghana it is 0·86. For Nigeria the regression coefficient is 0·31 and for Ghana 0·23, which are both smaller than those found to hold for the earlier period.[2]

The high correlation coefficients are surprising, in view of the fact that the main exports of both countries have been handled since the war by marketing board organizations. These cut the direct link between the producer and the world price. Domestic exports reflect the prices received by sales on the world market, whereas the currency circulation should reflect the prices paid to producers by the marketing boards. In most of the years under review these have been lower than the world price. It is not obvious, therefore, why this close relationship should hold for the post-war period and it is possible that it is entirely fortuitous; the matter will not be pursued here.[3] The differences between world prices and local

[1] The figures for the years 1946 to 1956 refer to currency holdings in the hands of the public. These are not available for the earlier years, which include the total currency in circulation, including that in the hands of banks.

[2] The correlation for the earlier period was between domestic exports and the total estimated currency circulation, as the figure for public holdings was not available. The calculations cover ten years in the case of Ghana and eleven years for Nigeria. Using the t-test, both relationships are significant beyond the 0·01 level for Ghana, and 0·001 level for Nigeria.

[3] A full explanation would have to follow an analysis of the exact differences, as far as the local producer was concerned, between the pre-war system of marketing and the post-war marketing board system. For a suggestive approach see, A. Hazlewood, 'Trade Balances and Statutory Marketing in Primary Export Economies', *Economic Journal*, 1957.

producer prices is reflected in the lower values of the regression coefficients obtained. They indicate that a change in exports of £100 was accompanied by a change of £30 in Nigeria's public currency holdings and of £20 in Ghana. The estimate for the pre-war period was £40 in both countries.

There is nothing in these results to indicate that the growth of the internal exchange sector had caused the public currency holdings to increase more rapidly than exports; the relationship appears to be closer than it was before 1939. There is one further qualification that might be made to the above conclusion and that concerns the effects of price changes. An important feature of the West African economies since 1946 has been big increases in prices, both for exports and internally, compared with the period before the war. A large part of the increase in total domestic exports has been due to price increases and it is likely that part of the increase in currency in circulation can be accounted for by the requirements of higher prices and incomes.

Of all the statistics available for Nigeria and Ghana those of price movements are probably the least satisfactory. Some attempt will be made, however, to use these price indices to try and indicate what the real changes in the currency circulation were during this period. For exports both countries publish indices of the quantum of domestic exports which go back to 1948. These indicate that Ghana's domestic exports have risen by about 30 per cent. in terms of volume between 1948 and 1956. For Nigeria (between 1948 and 1955) the increase was about 40 per cent. No price indices are available that are applicable to the whole of either country. For Ghana there is a retail price index for Accra, commencing in 1948, and for Nigeria there are similar indices for Lagos, Ibadan, and Enugu which begin in 1953. All these indices refer to the expenditure pattern of the artisan class resident in these towns.[1] These groups are likely to be more sophisticated than others in their expenditure patterns and are not typical of most West Africans. Since these indices give the only available information concerning the movements of internal prices, they will be used here to indicate the broad movements involved.

When the figures for currency in the hands of the public are deflated by these indices it appears that, 'in real terms', it has expanded by about 100 per cent. in Nigeria between 1948 and 1956.[2] For Ghana the equivalent increase is also about 100 per cent. Even after making generous allowance

[1] The Accra index refers to manual and related workers, and the Nigerian indices to Africans, working for firms and governments, with basic earnings of £350 p.a. and less.

[2] In order to obtain a series for Nigeria going back to 1948 it was necessary to use the index of wholesale prices of imported goods published by the United Africa Co. See *Statistical and Economic Review*, No. 3, Mar. 1949, and subsequent issues. The series for Lagos was used. The official series begins in 1953 and the three indices for Lagos, Ibadan, and Enugu were averaged for this purpose.

for the deficiencies of the statistics used to make these calculations, it seems that the expansion of the currency circulation was larger than could be explained by the price rise over the period. It was also much larger than the real increase in domestic exports.

By its nature the evidence that has been set out above can never be conclusive, since so many pieces of the picture are still missing. However, it is submitted that it is not inconsistent with the hypothesis that the internal sectors of these economies have grown relatively to the export sectors since 1946. It is true that the currency circulation in public hands has remained closely related to the growth of the value of exports, but, due to the marketing board system the form of the relationsip between them has altered. Changes in the value of domestic exports are associated with smaller changes in currency circulation than was the case before the war. There have also been important changes in the composition of the money supply. A higher proportion of the issued currency now takes the form of notes, a change which is particularly marked in Nigeria. This is due both to the rise in the price level, which has made the units of the issued currency more suitable for transactions purposes, and also to a much readier acceptance of notes by the general public. In addition, the growth of bank money has played a big part in the expansion of the money supply. The banks themselves have been active in this expansion in Nigeria, but have not done so to the same extent in Ghana.

It is unlikely that these changes have been due to the big rise in the value of exports; in real terms exports have increased less than the currency circulation. In any case the exports which have increased so much in value, but so little in volume, have been handled by state marketing boards which have had no need of bank assistance to finance their business; they have always had assets far in excess of their immediate needs.

It is possible, therefore, to come to the fairly plausible conclusion that the expansion of the money supply in both Nigeria and Ghana since the war cannot be explained solely by the growth of the export sectors of these economies.

Conclusions drawn from the evidence reviewed above must necessarily be of a negative kind. One cannot go on and discuss, solely from money and banking statistics alone, the possible nature of the internal changes that have occurred. Internal economic development—the spread of the market economy and of the use of money, together with associated internal investment—may be helped or hindered by a country's monetary arrangements. Changes in such arrangements will not themselves initiate corresponding changes in economic development. On the other hand, such changes may remove obstacles which prevent such development getting under way.

The colonial sterling exchange standard does not adapt itself easily to internal economic development and its introduction in the form that it took in West Africa may have created obstacles to internal development at the same time as it assisted the export sector, as it was designed to do. It seems that the best way in which the monetary arrangements could accommodate themselves to internal development was by the growth of the use of bank money; in this respect the growth of bank deposits as a part of the total money supply is an important feature of the economic development of Nigeria and Ghana since 1946.

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THE LABOUR EXCHANGE PHASE OF THE CO-OPERATIVE MOVEMENT

By W. H. OLIVER

THE familiar retail and wholesale co-operative movement of twentieth-century Great Britain is only one part of the original co-operative programme. The founders held that workers should control production as well as marketing; they attacked the profits of the capitalist manufacturer as well as those of the shopkeeper. They opposed a monetary system which they thought impoverished the labouring population. They intended to educate, technically and morally, the people they liberated economically and socially. Their aim was social revolution. Many of their followers had more modest aims, seeking only an escape from high retail prices and adulterated goods. This mundane ambition was probably the more basic; it gave the main movement of the nineteenth and twentieth centuries its character.

There was incomplete harmony at the beginning of the movement. Leaders seeking general social change were constantly pained by followers who thought a shop sufficient Utopia for them.[1] To the purist, Utopia was a community; the shop a profit-making concern to finance it. The labour exchange is something of a half-way house between shop and Utopia. Its operators were neither dreamers nor (essentially) consumers; they were handicraftsmen producing goods. They retained ideas of total economic reform in production, marketing, and currency. They minimized or discarded the notion of reform through education and communities. The purists would reform society by quitting it, by setting up cells of good living throughout the country to convert by example. The handicraftsmen too wanted social reform, but their strong points, the labour exchanges, would convert society from within, both by example and aggression. In the co-operative movement of the 1820's and the 1830's there are, then, three lines of advance: purists aiming at communities, consumers seeking cheap and pure goods, handicraftsmen operating labour exchanges.[2] In the 1820's the typical goal was a community, during the bulk of the nineteenth century, co-operative retailing and wholesaling. The early 1830's separate these two phases; the typical goal then was the labour exchange. It is the purpose of this paper to describe its origins, its theory, its

[1] *Co-operative Miscellany*, Nos. 4, 5, 6, 7, 9, Apr. to Sept. 1830.

[2] The producers in the labour exchanges also wanted pure and cheap goods; here their productive activities are taken to mark them off from the ordinary run of co-operative society members.

operation, the men who made it work for a short time, and the ambitions they entertained.

A small core of propagandists started the whole complex movement. Owen overshadows them all, but for much of the 1820's he was in America. His place in the United Kingdom was supplied by William Thompson, William King of Brighton, John Minter Morgan, William Pare, William Carson, and the Londoners in the British Association for the Promotion of Co-operative Knowledge. All were able writers, lecturers, and organizers. They had a common line of argument: the value of a commodity depended entirely upon the amount of labour devoted to its production; hence the labourer (dignified as producer) had a right to the total value of the goods he produced. Clearly, he did not receive that value. Employers, shopkeepers, and government (all stigmatized as non-producers) deprived him of his rightful property, in the name of fictitious and unjust property rights. And the remedy? Not, as other agitators concluded, political revolution. Rather, a withdrawal from the unjust society into a new society of communities. But a community would require land, buildings, and equipment; it would require money. Money could be raised by societies owning shops. Goods sold in these shops would bring a smaller profit than similar goods sold by shopkeepers, but the whole of that profit would be saved to finance a community.[1] In essence, a labour exchange is a shop to which society members bring goods they produce and exchange for goods they cannot produce. Ideally, a farmer-member would bring butter and take away shoes, a shoemaker would bring shoes and take away butter. To co-operative purists, such an arrangement was no more than an improved device for financing a community.

All the purists aimed at communities, but two of them made qualifications especially suited to the men who joined the labour exchanges. King and Thompson, at about the same time, offered handicraftsmen in trade unions something less than Utopia. They might, if they preferred the more modest course, transform their unions into productive associations, and reap the full value of their labour while remaining ordinary citizens.[2] This diluted gospel suited the handicraftsmen; where they were not revolutionary they were more concerned to improve their status in this world than to leave it.

One of the diverse results of this propaganda was to prompt some

[1] Profit here is not the profit of the capitalist; it is that proportion of the value of the produce of labour not passed back to the labourer as an individual but retained in his name by the society of which he was a member.

[2] [*Brighton*] *Co-operator*, May 1828; William Thompson, *Labour Rewarded*, 1827. Thompson's advice to trade unionists is summarized by M. Beer, *A History of British Socialism*, i. 226–7 (1940 edn.).

co-operative societies to found the first labour exchanges. They broadened their shops into labour exchanges. The most significant is the First Western Co-operative Union in London which added a labour bank to its shop in 1831–2. It intended to handle goods manufactured by its members and to use labour notes. It appears to have ceased business in 1833.[1] This, the most durable forerunner to Owen's experiment, shows the effect his ideas could have without his personal assistance.

Owen returned to England in 1829 and proceeded to catch up with his disciples. At the end of 1831 he proposed to form an Association to Remove the Causes of Ignorance and Poverty; a labour exchange and bank figured among its more humble activities.[2] Practising labour exchangers rebuked him for putting what were to them lesser things first.[3] In mid-1832 he met his critics more than half-way and gave the exchange priority. His approach was still distinct from theirs; he made currency reform and the abolition of the national debt more important objectives than the advantage to the artisan.[4] The exchange opened in September at Gray's Inn Road. Initially, it was run by shopkeepers—in Owenite jargon, by members of the 'unproductive industrious classes'.[5] It flourished from the outset and this initial success convinced the handicraftsmen that the experiment could serve their interests. Then followed an influx of artisans, which altered the character and the control of the exchange. Within a year it passed out of the hands of the shopkeepers.

In March 1833 the London United Trades' Association was formed to co-ordinate the groups of handicraftsmen who were bringing their products to the exchange. It consisted of 'delegates from the various trades who have associated to carry out the principles of Labour Exchange'.[6] By April nine trade groups employed out-of-work members co-operatively and sent articles to the exchange.[7] In May the United Trades' set up a fund to buy materials on the wholesale market for these groups.[8] The United Trades' Association was probably restricted to wage-earners; a separate Depositors' Association catered for small masters and independent craftsmen.[9] Apart from these two, doctrinaire co-operation was represented by

[1] *Poor Man's Guardian*, 7.1.32, 18.2.32, 17.3.32, 27.10.32, 22.12.32, 10.8.33.

[2] Printed report of the meeting of 12.12.31, O[wen] D[ocuments, Holyoake House, Manchester, No.] 147. See also *Poor Man's Guardian*, 24.12.31.

[3] William Watkins to Owen, 23.1.32, O.D. 503; W. King to Owen, 31.12.31, O.D. 458. Watkins wrote for the First Western Union, King (not W. King of Brighton) for the Gothic Hall co-operators.

[4] *Poor Man's Guardian*, 21.7.32.

[5] A meeting of men so described was held in Sept. 1832 at which a committee was elected (*Crisis*, 29.9.32). A little earlier the officers of the exchange had been elected by its controllers (ibid., 1.9.32). The committee of the former group were, with two exceptions, shopkeepers; the same individuals were elected controlling officers of the exchange: i.e. all three trustees, four out of five directors, five out of seven councillors. Owen was elected governor.

[6] Ibid., 30.3.33. [7] Ibid., 4.5.33. [8] Ibid., 11.5.33.

[9] Ibid., 8 and 15.6.33.

a Missionary Society. In July 1833 these three groups coalesced to form the grandiloquently titled National Equitable Labour Exchange Association of the Industrious Classes. It ran the exchange through a United General Committee.[1] The Association met first early in August when it had about 500 members. A spokesman claimed that it consisted of 'chiefly the more respectable and influential of the working classes, with a considerable number of the intelligent middle and benevolent of the upper classes'.[2] Another held that the handicraftsmen found the exchange floundering and restored it to prosperity.[3] The shopkeepers had been displaced by propagandists, trade unionists, independent craftsmen, and small masters.

The societies belonging to the United Trades' Association were of craftsmen who could 'produce their various articles without requiring very large means'[4]—that is, men who did not need a great deal of capital and equipment. Carpenters, boot and shoemakers, painters, glaziers, cabinetmakers, chairmakers, hatters, tailors, brushmakers, brasscock founders, sawyers, carvers, gilders, and turners certainly joined in societies.[5] Carpenters, tailors, and boot and shoemakers attended regularly; these trades, as well as cabinet and chairmakers were the only ones with more than one society. Some groups had existed as trade societies before their conversion to labour exchange; others were specially organized for co-operative production.[6] The United Trades' was in no sense either a trade union or a federation of trade unions; it enlisted individuals and societies as they offered themselves. The sole qualification for membership was a readiness to bring goods to the exchange.

But some of the participating groups took a distinctly trade unionist attitude to the exchange; two at least discovered the usefulness of labour exchange when they were on strike.[7] A meeting of boot and shoe operatives held in October 1833 moved one of their number to claim that the whole trade would shortly unite around the principle of labour exchange, that similar developments were taking place in Manchester and Birmingham, and that the final result would be to deprive 'non-producers of their power of bringing their capital to bear against the interest of the labourer'. The middle classes would become operatives; the aristocrats and fundholders would be destroyed as a class; power and wealth would be restored to the true producers of wealth.[8] Clearly, labour exchange was still an element in a programme of total social reform; clearly, too, trade unions were

[1] *Crisis*, 27.7.33. [2] Ibid., 10.8.33. [3] Ibid., 30.11.33.
[4] Ibid., 21.9.33. [5] Ibid., 1833, *passim*.
[6] e.g. the Carpenters' Society at the Argyle Arms and the Tailors' Society at the Coach and Horses were clearly trade clubs (ibid., 19.1.33); a society of cabinet makers which became a 'trade union' after joining the labour exchange is a contrary case (ibid., 13 7.33).
[7] Tinplate workers and sawyers, ibid., 6.7.33, 29.6.33.
[8] *Poor Man's Guardian*, 2.11.33.

attracted both by the technique and the goal. But their support altered the character of the goal; the community was replaced by a co-operative commonwealth. The goal became economic rather than moral.

While trade unionists turned to labour exchange, it became the object of co-operative propaganda to attract the unions as a whole. Here we must distinguish between 'union' and 'trade union' in contemporary usage. 'Union' indicated a very diffuse social aim—little more than a feeling that men must combine to be effective. As such, political radicals, co-operators, and trade unionists, can talk about a 'working class union' and mean quite different things. It was always the aim of the labour exchange theorists to build up a union of producers. The way in which this diffuse union is described is the significant thing. Early in 1832 a union of co-operative societies was the ideal; in the next year 'a moral union of the whole of the friends of the Social System' was advocated; at the same time a union of the labour exchanges themselves was held out as an ideal instrument of social regeneration.[1] The United Trades' itself talked variously of a union of the working classes, a national union, a general union.[2] Owen took the final step after he had seen a good deal of the builders' union and the Yorkshire unions; he made trade unions as such the basis of his 'union' pyramid. If his plan had been followed, every union in every town would have become a producing society sending goods to an exchange; labour exchanges would have been set up in all towns, and would, through the unions, have controlled the whole productive capacity of the country.[3] Thus, around the same time, co-operators integrated the theory of labour exchange with the fact of trade unions, and the unionists (or many of them) decided to annex the labour exchange and co-operative production to their unions. The integration was more in planning than in achievement. In Birmingham, Manchester, and Worcester, planned or actual exchanges aimed at a high degree of trade union and labour exchange co-ordination.[4] In 1834 many trade unions did produce their own goods, but more under the inspiration of the Consolidated Trades' Union than that of the labour exchange movement. Possibly they intended to set up exchanges, but they did not do so before their collapse.

Just as in the earlier co-operative movement there was a gap between the advocates of general reform and those content with piecemeal improvement, so among the supporters of labour exchange there was a division between those who saw in the new method a way to reform the whole

[1] Ibid., 14.1.32; *Crisis*, 16.11.33, 21.12.33.
[2] Ibid., 4.5.33, 13.4.33, 1.6.33.
[3] Ibid., 12 and 19.10.33.
[4] The Birmingham experiment is treated below. There were only plans for exchanges at Manchester and Worcester. For these see the letters to Owen from George Marshall and William Wilks in the Owen Documents at Holyoake House.

economic organization of society, and those who pursued very limited objectives. The latter looked for little more than an increase in the return on labour through the exclusion of the middleman; they saw, too, a way to employ out-of-work union members and members on strike which put less strain upon union funds than relief or strike pay. The weight of opinion behind each approach can hardly be assessed, but both existed. The propaganda directed towards the unions made little mention of social reform or the currency; instead it stressed the advantage to the unions of 'employing their own unemployed'.[1] In fact, of course, the propagandists themselves were far more interested in currency and communities. Probably a small group, in the unions and at Owenite centres, took labour exchange as an instrument of social reform; simple unionists were probably not convinced until they saw immediate advantage for themselves.[2]

Of the actual business done by the London exchange only the scantiest records remain.[3] Scraps of information are to be found in the pages of the *Crisis*, and hardly anywhere else. The exchange opened in September 1832, but no statement of deposits or exchanges is available until April of the following year. And then the information is of a most confusing kind.[4] In the next month the quarterly report of the United Trades' Association claimed that all societies, nine in number, had done business in the last three months to the extent of £1,200, and that some societies had paid £70 or £80 in wages during the same period.[5] The *Crisis* throws some light on the volume of business done by the individual societies. The first carpenters traded to the value of £31. 5*s*. in three weeks, a tailors' society to the value of £95. 18*s*. in three months; the first cabinet and chairmakers' society to the value of £40 in an unspecified period.[6] These fragmentary figures do not indicate a threat to the economic order; they do show that for some societies business was brisk enough to bring an acceptable profit to their members. The societies do not seem to have been numerically very strong. A cabinet-makers' society had 66 members; the first carpenters' society 66; three societies of boot and shoemakers 100,

[1] *Crisis*, 13.4.33, 11.5.33, 10.10.33; *Destructive*, 27.4.33; Nash to Owen, 14.11.33, O.D. 573.

[2] e.g. at Barnsley George Marshall separates the 'labourers' belonging to trade unions from the 'co-operators' and stresses that it was the latter who were keen on setting up an exchange there. Marshall to Owen, 11.8.33, O.D. 632.

[3] There are no records at all which were kept by the operators of the exchange. 'Mr. Owen's Institution' (including the exchange) was auctioned in 1836, and the catalogue of articles for sale, with the prices obtained entered in Owen's handwriting survives in the Owen Documents, No. 772. Records were probably destroyed at this time; had they survived they would probably have ended up in Holyoake House.

[4] In one place it is stated that the carpenters have sold goods worth £150 and the tailors goods worth £193 (*Crisis*, 13.4.33). In a subsequently published report of the fifth Co-operative Congress held in April, it is said that the Argyle Arms Carpenters' Society sold £300 worth of goods, and a tailors' society £150 worth (ibid., 19.10.33).

[5] Ibid., 4 and 11.5.33.

[6] Ibid., 25.5.33, 8.6.33, 10.8.33.

75, and 54.[1] The division of credits earned would have been welcome enough. Individual self-help was going ahead while social reform was lagging behind.

The exchange at London was hardly planned; it occurred. First it was operated by Owen through a body of shopkeepers; then control was transferred to a body which represented artisans, independent craftsmen, small masters, and theorists. After the transfer, the Association elected its own officers whose positions give a fair idea of the operations of the exchange. There was a superintendent, a secretary, a receiver of deposits, a clerk for deposits, a butcher, a manager of the provision store, three exchangers, and a watchman.[2] The positions of butcher and manager of provision store point to a handicap which the exchange could never finally overcome—the fact that artisans wanted foodstuffs for their finished articles. Hence there was set up a provision fund from which supplies were bought probably in cash rather than in labour notes;[3] for the same reason efforts were made (probably unsuccessfully) to attract into the United Trades' Association societies of bakers.[4] Members could easily exchange hats for shoes, but if they exchanged either hats or shoes for bread and meat it was only after an ignominious surrender to disproved theories of currency and exchange.

While the London centre developed in this haphazard fashion, the Birmingham Owenites made careful plans. They had the example of the London experiment before them; their plans represent a rather more fully worked out system. The Birmingham United Trades',[5] the organization of the handicraftsmen, saw their own exchange as part of a national plan to put into practice 'the principles of the Equitable Labour Exchange, by the establishment of a grand national depot or bank of wealth in London, with branches throughout the kingdom, for the purpose of facilitating the exchange of the various products of . . . labour upon just and equitable principles'.[6] Birmingham, then saw the first and only substantial attempt to build up a national organization. Interest in that city is in no way surprising; its industrial organization was suitably dominated by small workshops, social relationships showed a convenient

[1] Ibid., 25.5.33, 27.7.33, 16.11.33.

[2] Ibid., 31.8.33.

[3] While the exchange flourished, the labour notes would pass as currency with outside retailers; at the first sign of a decline they would demand cash. In this case, the fact that a separate fund was kept makes it likely that purchases were made in cash.

[4] *Crisis*, 17.8.33, 24.8.33, 31.8.33.

[5] I have been unable to discover exactly when this body was formed. It existed before the Association of Depositors described below; this association was probably the United Trades' under a new name.

[6] *Crisis*, 27.4.33.

solidarity between small master and operative.[1] William Hawkes Smith, a Birmingham Owenite, described the local situation in terms which bring out both the initial attraction and the fatal defect in labour exchange:

> In a 'manufacturing Town' like Birmingham the deposits would greatly come from *small masters* . . . who are pressed by competition to the destruction of profit—and from out-working operatives, who . . . are many of them, almost void of work . . . the *mass* would be those who send *manufactured* articles. Our object would therefore be to exchange these, for *agricultural* and *colonial* produce and for *clothing* materials.[2]

His immediate request was for inter-exchange trade with London and the northern textile districts. Subsequently, William Pare combined with missionary tours to the north an effort to exchange Birmingham goods for textiles, but there is no record of his results.[3] In 1833 £100 worth of goods were exchanged between London and Birmingham.[4] No record of the goods exchanged remains, but in August London expressed its willingness to send articles which, in the main, were already produced by men attached to the Birmingham exchange.[5] The movement was likely to attract few except those who produced finished goods in small workshops; however well-reticulated the system might become, the exchanges would not be able to supply each other's deficiencies—unless, indeed, workmen gained control of textile factories, farms, and overseas trade. They aimed at this consummation, but never approached it.[6] Clothing and food in any quantity stayed outside the system; the exchanges were hobbled by their attractiveness to a limited class.

These defects, though they were well known to William Pare, one of the leading spirits in the Birmingham movement,[7] did not deter the planners. Some 10,000 copies of a prospectus were distributed in preparation for Owen's lectures;[8] in these, delivered in November 1832, Owen emphasized the connexion between the exchange movement and schemes for a reformed currency. He tried to attract 'the Attwoods, the Scholefields, the

[1] On the early nineteenth-century situation in Birmingham see A. Briggs, 'Thomas Attwood and the economic background of the Birmingham Political Union', *Cambridge Historical Journal*, vol. ix, No. 2 (1948).

[2] Smith to Owen, 23.10.32, O.D. 574.

[3] *Crisis*, 5.10.33.

[4] Ibid., 26.10.33.

[5] Dixon to Owen, 10.8.33, O.D. 634.

[6] For ambitions to control the import trade see *Crisis*, 21.9.33, and *Birmingham Labour Exchange Gazette*, 2.2.33. Co-operative farms and factories were traditional co-operative ambitions. Silk goods were produced in a union-owned factory at Derby in 1834, but under the guidance of the Consolidated Trades' Union, not the labour exchange movement.

[7] In 1830 Pare described the difficulties of the Birmingham situation—the abundance of co-operators producing finished articles and the scarceness of food-producers. See a copy of a letter addressed by Pare to the *Weekly Free Press*, 11.8.[30], O.D. 130. The same situation is dwelt upon in preface to the collected edition of the *Birmingham Labour Exchange Gazette*, where the difficulty is admitted and spade husbandry put forward as the only remedy.

[8] Pare to Owen, 24.10.32, O.D. 575.

Muntzes, the Joneses',[1] and he succeeded. Thomas Attwood chaired his meeting on 26 November; G. F. Muntz became chairman of the Labour Exchange Committee, explaining that his interest lay in the reform of the currency and in full employment. Messrs. Spooners, Attwood & Co. became bankers to the exchange.[2] But at the same time Owen caught the ear of the depressed small masters and out-of-work artisans. It was decided in November to open the exchange when £2,000 had been subscribed in £20 shares. Early in 1833 nearly half that amount was in, and groups of workmen were being formed to buy quarter-shares through small weekly subscriptions from each member.[3] Applications quickly dropped off in the first months of the year; in March £4 shares and £1 quarter-shares were being offered.[4] Workmen held discussion meetings under the guidance of the Committee; significantly enough, they were always meetings of builders or handicraftsmen.[5] Individuals prepared to deposit articles registered with the Committee; they too were a very diverse selection of 'small masters and out-working operatives'.[6]

James Morrison, soon to edit the *Pioneer* first for the Operative Builders' Union and then for the Consolidated Trades' Union, was busy urging the trade unions to buy shares.[7] William Pare saw union co-operation as the condition of success. By the end of 1832 plans were well advanced for a body not unlike the London United Trades' Association, but rather more formally organized. Pare described how

> . . . it is resolved that each shop shall elect one of their own number to form a committee; this committee to elect two from their body, to form with a like number from each other trade, a grand Union Committee of Trades. This latter committee will be in constant communication with the managers of the Exchange. . . . I conceive it to be of the utmost importance to cherish these Trade Unions.[8]

Such a committee was formally set up as an Association of Depositors, separated into different divisions for each trade. The exchange was to offer for sale goods deposited by these groups and pass on to them orders for outside work; it was also to take orders for builders' work, and to function as a multi-trade house of call to which unemployed and masters could apply. Thus Birmingham artisans were linked to the exchange in

[1] *Crisis*, 24.11.32.
[2] Ibid., 3.8.33; *Birmingham Labour Exchange Gazette*, 26.1.33.
[3] Ibid., 16.1.33, 2.2.33.
[4] *Destructive*, 30.3.33.
[5] Carpenters, stonemasons, bricklayers, platers, brassfounders, gunmakers, jewellers, tailors, shoemakers, locksmiths, silk-hatters, hairdressers, coach and harness platers. *Birmingham Labour Exchange Gazette*, 26.1.33, 2.2.33.
[6] They included men making tools, buttons, brasswork, boots and shoes, harness and saddlery, cutlery, toys, guns, umbrellas, and watches, as well as shopkeepers, merchants, and minor professional men, and only one brewer and one farmer. Ibid., 19.1.33.
[7] Ibid., 2.2.33.
[8] *Crisis*, 15.12.32.

two ways; first, as members of shareholding groups, and second, as members of depositing societies. It is likely that the two types were identical. There is no suggestion that only whole groups were incorporated into the structure.[1] As in London some groups were existing trade societies, some were called into being simply for the purposes of the exchange.[2]

Though all this preparation took place late in 1832 and early in 1833, it was about six months before the exchange was in fact opened. Premises were taken and managers appointed in July.[3] In November, we learn that the exchange was hampered by its inability to supply provisions and raw materials, both of which were needed before the producing societies could flourish.[4] There is no likelihood that this handicap was overcome. In December the Birmingham United Trades' were concerned about the Derby strike;[5] subsequently goods produced by the Derby turn-outs were on sale at Birmingham and it is very probable that the exchange handled them.[6] These facts hardly point to a virile existence; whatever the initial life, however, the death of the exchange was an inevitable part of the general Owenite, co-operative, and trade union débâcle that accompanied the fall of the Consolidated in mid-1834.[7]

Up to this point, the exchange movement has been examined in its major aspect—as part of the history of working-class organization. But the interest of Attwood indicates a different approach. The labour note plays a small role in the history of efforts to reform the currency; it is a product of that energetic debate which accompanied the abandonment of cash payments in 1797 and their resumption in 1821. The theory of this particular scheme is not far to seek; it is laid down in a few paragraphs of Owen's *Report to the County of Lanark*. Here Owen argues that unemployment is caused by a defect in distribution, by 'the want of a market, or means of exchange, co-extensive with the means of production'. In the

[1] The rules of the Association of Depositors are to be found in O.D. 594. They are undated. A model set of rules brought out for share-raising societies is to be found in the *Birmingham Labour Exchange Gazette*, 9.2.33. This latter contains many formal provisions which would have been unnecessary if only pre-existing trade societies were being recruited.

[2] A specially formed boot and shoemakers' society contrasts with pre-existing groups like the Lodge of United Brothers and the Tailors' Gift. Ibid., 9.2.33.

[3] *Crisis*, 3.8.33.

Ibid., 9.11.33.

[5] *Pioneer*, 21.12.33.

[6] Ibid., 1.2.34.

[7] G. D. H. Cole (*A Century of Co-operation*, p. 31) and Margaret Cole (*Robert Owen of New Lanark*, p. 183) contend that the Birmingham exchange 'ended its days in triumphant solvency' (in the words of the latter). G. D. H. Cole adds that on winding up it presented its profit to the Cottage Hospital. I am not acquainted with the evidence which supports this picture of financial buoyancy. If solvency and a profit were achieved, it may well have been at the expense of any considerable volume of trade.

past half-century Great Britain had increased her productive power forty times by scientific improvements to industry; if the wealth so created could be distributed more readily distress would disappear. One of the basic changes he proposed to ease distribution was 'a change in the standard of value'. Gold and silver were merely artificial standards; by the end of the eighteenth century experience had proved that 'gold and silver could no longer practically represent the increased wealth created by British industry aided by its scientific improvements'. The result of an artificial standard was 'poverty, discontent, and danger'. The cure for this condition was to recognize 'THAT THE NATURAL STANDARD OF VALUE IS, IN PRINCIPLE, HUMAN LABOUR, OR THE COMBINED MANUAL AND MENTAL POWERS OF MEN CALLED INTO ACTION.'[1]

In his detailed recommendations Owen starts with spade cultivation—a nostrum which need not detain us here except to note Owen's belief that this technique would enormously increase the productivity of the soil and so make more acute the problem of distribution. He resolved this problem into one of exchange: distribution is hampered by a medium of exchange which bears no intrinsic relation to true value (i.e. labour time) and would be facilitated by a medium directly related to that value. '*The natural standard of human labour*, fixed to represent its natural worth, or power of creating new wealth, will alone be found adequate to the purposes required.' Owen did not think it would be difficult to ascertain the amount of labour in an article. 'This is, in fact, already accomplished, and is denoted by what in commerce is technically called "the prime cost", or the net value of the whole labour contained in any article of value. . . .' Primitive barter had been simply the exchange of quantities of labour; modern commerce had introduced the artificial metallic standards. The new system would have the advantages, but none of the disadvantages, of both.

> This substantial improvement in the progress of society may be easily effected by exchanging all articles with each other at their prime cost, or with reference to the amount of labour in each, which can be equitably ascertained, and by permitting the exchange to be made through a convenient medium to represent this value, and which will thus represent a real and unchanging value, and be issued only as substantial wealth increases.[2]

The gentlemen of Lanark did not listen closely to this advice but in the following decade an audience Owen had hardly contemplated in 1820 listened very attentively. This notion of a labour standard of value, of a currency representing that standard, corresponded closely to the current socialist dogma on the right of the labourer to the whole produce

[1] *Report to the County of Lanark* (1820), in *A New View of Society and other Writings*, ed. G. D. H. Cole, Everyman edn., pp. 248–50.

[2] Ibid., pp. 262–3.

of his labour.[1] Thus currency reform became an important part of the co-operative movement in the early 1830's.

Attwood's interest in labour exchange should cause no surprise, for there is a marked similarity between his own views and those of Owen. There is the same insistence that production is not constant, but can be increased by government action. Where Owen advocated spade cultivation and villages of industry conducted by the government, Attwood called for public works construction through 'public depôts of industry'.[2] Again, the two agree that the flaw in the actual economic system was a defect in distribution; both ascribed this defect to a false and inadequate circulating medium which hampered rather than facilitated the exchange of commodities. Both wished to replace gold with a paper currency directly related to the productive capacity of the country. Attwood, to be sure, did not talk of labour notes, but his demand that the Bank of England should 'regulate the issue of their notes by the *power of labour*'[3] further emphasizes the basic agreement between the two men. Both, in terms of contemporary political alignments, are to be placed not far away from the Tory radicals; they were anti-Whig and anti-Ricardian, and made their attack upon the economic order through a programme of currency reform.[4] To currency reform, Attwood added political reform, Owen co-operative production and co-operative communities. Both men, finally, saw full employment as essential to a happy society, and as a guarantee of well-being to master and man alike.

It would be mere repetition to analyse Owen's currency propaganda during the early 1830's when he linked currency reform with the exchanges. He was not a man to alter an argument once he had phrased it; his theory in this period is exactly the theory of his *Report*. The labour bank and the labour note were attempts to exchange articles 'with reference to the amount of labour in each', to bring into circulation 'a convenient medium to represent . . . a real and unchanging value . . .'. The system of valuation adopted in the exchanges was not in fact a thoroughgoing attempt to apply the theory. Labour time was expressed in labour hours, and a labour hour was taken to equal an hour's work by a man whose standard

[1] Owen, in this *Report*, does not talk about returning to the labourer the *whole* of his produce, but asserts that 'the best interests of every community require that the producer should have a fair and fixed proportion of all the wealth which he creates'. Ibid., p. 262. But by 1830 Owen is hardly to be distinguished on this count from the most thoroughgoing of the whole produce theorists.

[2] Quoted in Briggs, 'Thomas Attwood and the Economic Background of the Birmingham Political Union', loc. cit., p. 207.

[3] Ibid., p. 205. Quoted from Attwood's *Observations on Currency, Population and Pauperism* (1818).

[4] For a discussion of Owen's Toryism which does not, however, take into account his currency theories, see Ralph Miliband, 'The Politics of Robert Owen', *Journal of the History of Ideas*, vol. xv, No. 2 (Apr. 1954).

rate was sixpence an hour. Allowance was made for workmen whose standard rate was in fact more than sixpence. 'This was, in effect, accepting the market valuations of the different grades and kinds of labour and to all intents and purposes making the labour notes mere translations into labour time of money amounts arrived at in the ordinary commercial way.'[1] In reality, labour notes remained tied to the artificial standard of value; in theory and in reputation they broke away from gold to the natural standard of human labour. The handicraftsmen who made the exchanges work for a short time, the Birmingham currency reformers, and Owen himself, all paid more attention to the reputation than to the reality.

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[1] G. D. H. Cole, *A Century of Co-operation*, p. 31.

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